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THE
NEW ZEALAND
OFFICIAL YEAR-BOOK
1899.

(EIGHTH YEAR OF ISSUE.)

Prepared under instructions from the
Right Honourable R. J. SEDDON, P.C., Premier,
by **E. J. von DADELSZEN, Registrar-General.**

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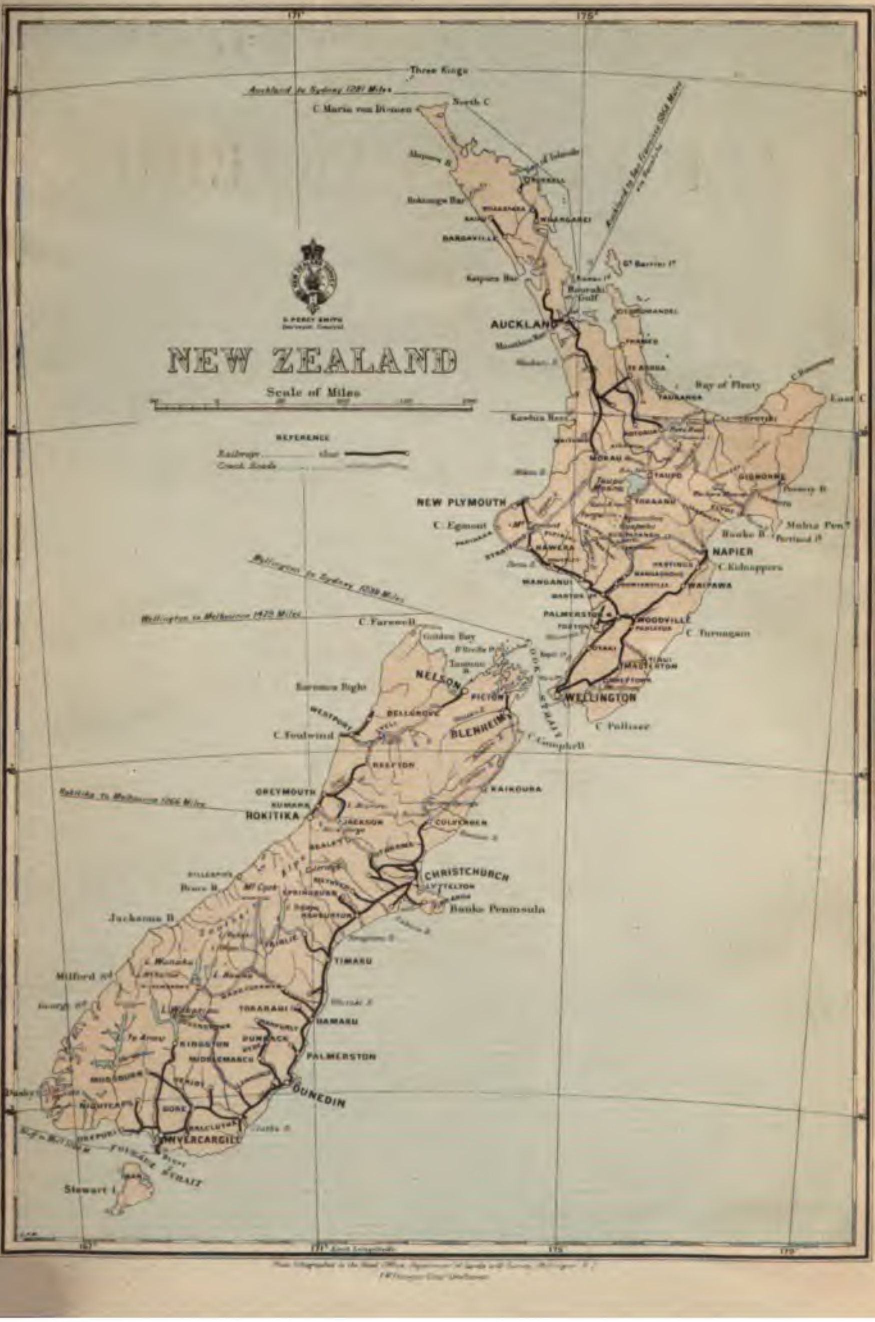
S. PERCY SMITH
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NEW ZEALAND
Scale of Miles
REFERENCE
Railways
Coach Roads
Three Kings
Auckland to Sydney 1281 Miles
North C.
C. Maria van Diemen
Bay of Islands
Russell
Hokianga Bar
Whangarei
Dargaville
Gt Barrier Id
Kaipara Bar
Hauraki Gulf
Coromandel
AUCKLAND
Manukau Bar
Thames
Te Aroha
Bay of Plenty
Tauranga
C. Runaway
East C.
Kawhia Harb.
Rotorua
Opotiki
Taupo
Gisborne
Poverty B.
NEW PLYMOUTH
C. Egmont
Mahia Pen.
Hawke B.
Portland Id
Hawera
NAPIER
C. Kidnappers
Wanganui
Waipawa
Wellington to Sydney 1239 Miles
Wellington to Melbourne 1475 Miles
C. Farewell
Golden Bay
D'Urville Id
Palmerston
Woodville
C. Turnagain
Karamea Bight
NELSON
Picton
Cook Strait
Masterton
WELLINGTON
Westport
Blenheim
C. Foulwind
C. Palliser
C. Campbell
Reefton
Kaikoura
Greymouth
Kumara
Hokitika to Melbourne 1266 Miles
HOKITIKA
Culverden
Christchurch
Lyttelton
Banks Peninsula
Bruce B.
Mt Cook
Jacksons B.
Timaru
Milford Sd
L. Wanaka
Oamaru
Kingston
Palmerston
Dunedin
Dusky Sd
Gore
Invercargill
Foveaux Strait
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171° East Longitude
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PREPARED UNDER INSTRUCTIONS FROM THE
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BY

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REGISTRAR-GENERAL.

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PREFACE.

Every effort has been made on this occasion, and with some success, to complete the preparation of the Year-book at an earlier date than previously.

The work was expedited subject to the disadvantage that some of the departmental reports presented to Parliament were not available for purposes of the statistical sections.

The latest figures are, however, mostly given throughout, and eleven new special articles introduced into Part III.

To meet the requirements of the Agent-General for the colony, extra copies of the sections have been made up into a number of small pamphlets, and these forwarded to London as early as possible without waiting for the completion of the book.

So far full evidences of the usefulness of the Year-book are forthcoming from time to time, and there is a large demand for it.

E. J. VON DADELSZEN.

Registrar-General's Office,
Wellington, N.Z., 12th August, 1899.

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THE

NEW ZEALAND

OFFICIAL YEAR-BOOK

1899.

ADDENDA ET CORRIGENDA.

Consuls (see p. 24): (1) C. W. Rattray, Esq., appointed Vice-Consul for Denma at Dunedin, *vice* E. Quick, Esq., resigned; (2) George Dunnet, Esq., provisional recognised as Consular Agent of France at Auckland; (3) C. W. Rattray, Es appointed Acting Vice-Consul for Portugal at Dunedin, *vice* E. Quick, resigne (4) Arthur Edward Pearce, Esq., appointment as Consul for Sweden and Norw at Wellington recognised.

Roll of Members of the Legislative Council (see p. 29): Hon. Franc Humphris Fraser, Wellington, appointed 22nd June, 1899; Hon. Hugh Gourle Dunedin, appointed 22nd June, 1899; Hon. Albert Pitt (Col.), Nelson, appoint 22nd June, 1899.

Members of the House of Representatives (see pp. 31, 148); Jo Hutcheson, M.H.R. for Wellington, resigned 7th July, 1899, re-elected 25th Jul 1899.

Honours Held by Colonists (see p. 26): Add Hon. H. B. Gresson, retir Judge. (Despatch, 29th August, 1877.)

Chief Justice (see p. 19): Sir James Prendergast, Kt., resigned his a pointment as Chief Justice from 25th May, 1899. Sir Robert Stout, K.C.M. appointed Chief Justice 22nd June, 1899.

"The Divorce Act, 1898," came into operation 1st June, 1899 (p. 8 *Gazette*, 20th April, 1899): Assented to by Her Majesty the Queen (p. 7 *Gazette*).

THE

NEW ZEALAND OFFICIAL YEAR-BOOK, 1899.

PART I.—INTRODUCTORY: OFFICIAL.

NEW ZEALAND.

THE Colony of New Zealand consists of three main islands, with several groups of smaller islands lying at some distance from the principal group. The main islands, known as the North, the Middle, and Stewart Islands, have a coast-line 4,330 miles in length—North Island, 2,200 miles; Middle Island, 2,000 miles; and Stewart Island, 130 miles. The other islands now included within the colony are the Chatham, Auckland, Campbell, Antipodes, Bounty, and Kermadec Islands. A protectorate over the Cook Islands (Hervey Group) is exercised by the Imperial Government, the Governor of New Zealand acting as responsible adviser.

New Zealand is mountainous in many parts, but has, nevertheless, large plains in both North and Middle Islands. In the North Island, which is highly volcanic, is situated the famous Thermal-Springs District, of which a special account will be given. The Middle Island is remarkable for its lofty mountains, with their magnificent glaciers, and for the deep sounds or fiords on the western coast.

New Zealand is firstly a pastoral, and secondly an agricultural country. Sown grasses are grown almost everywhere, the extent of land laid down being about ten millions of acres. The soil is admirably adapted for receiving these grasses, and, after the bush has been burnt off, is mostly sown over without previous ploughing. In the Middle Island a large area is covered with native grasses, all used for grazing purposes. The large extent of good grazing-land has made the colony a great wool and meat-producing country; and its agricultural capabilities are, speaking generally, very considerable. The abundance of water and the quantity of valuable timber are other natural advantages.

New Zealand is, besides, a mining country. Large deposits of coal are met with, chiefly on the west coast of the Middle Island. Gold, alluvial and in quartz, is found in both islands, the yield having been over fifty-four millions sterling in value to the present time. Full statistical information on this subject is given further on, compiled up to the latest dates.

DISCOVERY AND EARLY SETTLEMENT.

The first authentic account of the discovery of New Zealand is that given by Abel Jansen Tasman, the Dutch navigator. He left Batavia on the 14th August, 1642, in the yacht "Heemskirk," accompanied by the "Zeehaen" (or "Sea-hen") fly-boat. After having visited Mauritius, and discovered Tasmania, named by him "Van Diemen's Land," in honour of Anthony van Diemen, Governor of the Dutch possessions in the East Indies, he steered eastward, and on the 13th December of the same year sighted the west coast of the Middle Island of New Zealand, described by him as "a high mountainous country, which is at present marked in the charts as New Zealand."

Tasman, under the belief that the land he saw belonged to a great polar continent, and was part of the country discovered some years before by Schouten and Le Maire, to which the name of Staaten Land had been given, gave the same name of Staaten Land to New Zealand; but within about three months afterwards Schouten's "Staaten Land" was found to be merely an inconsiderable island. Upon this discovery being announced, the country that Tasman had called Staaten Land received again the name of "New Zealand," by which it has ever since been known. Tasman sailed along the coast to a bay, where he anchored. To this he gave the name of Murderers (now Massacre) Bay, on account of an unprovoked attack on a boat's crew by the natives, and the massacre of four white men. Thence he steered along the west coast of the North Island, and gave the name of Cape Maria van Diemen to the north-western extremity thereof. After sighting the islands of the Three Kings he finally departed, not having set foot in the country.

There is no record of any visit to New Zealand after Tasman's departure until the time of Captain Cook, who, after leaving the Society Islands, sailed in search of a southern continent then believed to exist. He sighted land on the 6th October, 1769, at Young Nick's Head, and on the 8th of that month cast anchor in Poverty Bay. After having coasted round the North Island and the Middle and Stewart Islands—which last he mistook for part of the Middle Island—he took his departure from Cape Farewell on the 31st March, 1770, for Australia. He visited New Zealand again in 1773, in 1774, and in 1777.

M. de Surville, a French officer in command of the vessel "Saint Jean Baptiste," while on a voyage of discovery, sighted the north-east coast of New Zealand on the 12th December, 1769, and remained for a short time. A visit was soon after paid by another French officer, M. Marion du Fresne, who arrived on the west coast of the North Island of New Zealand on the 24th March, 1772, but was, on the 12th June following, treacherously murdered at the Bay of Islands by the Natives.

In 1793 the "Dædalus," under the command of Lieutenant Hanson, was sent by the Government of New South Wales to New Zealand, and two chiefs were taken thence to Norfolk Island. There was after this an occasional intercourse between the islands of New Zealand and the English settlements in New South Wales.

In 1814 the first missionaries arrived in New Zealand—Messrs. Hall and Kendall—who had been sent as forerunners by Mr. Marsden, chaplain to the New South Wales Government. After a short stay they returned to New South Wales, and on the 19th November of that year again embarked in company with Mr. Marsden, who preached his first sermon in New Zealand on Christmas Day, 1814. He returned to Sydney on the 23rd March, 1815, leaving Messrs. Hall and Kendall, who formed the first mission station at Rangihoua, Bay of Islands, under the auspices of the Church Missionary Society. Six years later, in 1821, the work of evangelization was put on a more durable basis; but the first station of the Wesleyan mission, established by Mr. Leigh and his wife, at the valley of the Kaeo, Whangaroa, was not taken possession of until the 10th June, 1823.

COLONISATION.

The first attempt at colonisation was made in 1825 by a company formed in London. An expedition was sent out under the command of Captain Herd, who bought two islands in the Hauraki Gulf and a strip of land at Hokianga. The attempt, however, was a failure, owing to the savage character of the inhabitants. In consequence of frequent visits of whaling-vessels to the Bay of Islands, a settlement grew up at Kororareka—now called Russell—and in 1833 Mr. Busby was appointed British Resident there. A number of Europeans—generally men of low character—gradually settled in different parts of the country, and married Native women.

In 1838 a colonisation company, known as the New Zealand Company, was formed to establish settlement on systematic principles. A preliminary expedition, under the command of Colonel William Wakefield, was despatched from England on the 12th May, 1839, and arrived in New Zealand in the following August. Having purchased land from the Natives, Colonel Wakefield selected the shore of Port Nicholson, in Cook Strait, as the site of the first settlement. On the 22nd January, 1840, the first body of immigrants arrived, and founded the town of Wellington. About the same time—namely, on the 29th January, 1840—Captain Hobson, R.N., arrived at the Bay of Islands, empowered, with the consent of the

Natives, to proclaim the sovereignty of the Queen over the islands of New Zealand, and to assume the government thereof. A compact called "The Treaty of Waitangi," to which in less than six months five hundred and twelve names were affixed, was entered into, whereby all rights and powers of sovereignty were ceded to the Queen, all territorial rights being secured to the chiefs and their tribes. New Zealand was then constituted a dependency of the Colony of New South Wales, but on the 3rd May, 1841, was proclaimed a separate colony. The seat of Government had been previously established at Waitemata (Auckland), round which a settlement was formed.

The New Zealand Company having decided to form another settlement, to which the name of "Nelson" was to be given, despatched a preliminary expedition from England in April, 1841, for the purpose of selecting a site. The spot chosen was the head of Blind Bay, where a settlement was established. About the same time a number of pioneers arrived in Taranaki, despatched thither by the New Plymouth Company, a colonising society which had been formed in England, and had bought 50,000 acres of land from the New Zealand Company.

The next important event in the progress of colonisation was the arrival at Port Chalmers, on the 23rd March, 1848, of the first of two emigrant ships sent out by the Otago Association for the foundation of a settlement by persons belonging to or in sympathy with the Free Church of Scotland.

In 1849 the "Canterbury Association for founding a Settlement in New Zealand" was incorporated. On the 16th December, 1850, the first emigrant ship despatched by the association arrived at Port Cooper, and the work of opening up the adjoining country was set about in a systematic fashion, the intention of the promoters being to establish a settlement complete in itself, and composed entirely of members of the then United Church of England and Ireland.

The Maoris.

Prior to the colonisation of New Zealand by Europeans, the earliest navigators and explorers found a race of people already inhabiting both islands. Papers written in 1874 by Mr. (afterwards Sir) William Fox, and Sir Donald McLean, then Native Minister, state that at what time the discovery of these islands was made by the Maoris, or from what place they came, are matters of tradition only, and that much has been lost in the obscurity enveloping the history of a people without letters. Nor is there anything on record respecting the origin of the Maori people themselves, beyond the general tradition of the Polynesian race, which seems to show a series of successive migrations from west to east, probably by way of Malaysia to the Pacific. Little more can now be gathered from their traditions than that they were immigrants, and that they probably found inhabitants on the east coast of the North Island belonging to the same race as themselves—the descendants of a prior migration, whose history is lost. The tradition runs that, generations ago, the Maoris dwelt in a country named Hawaiki, and that one of their chiefs, after a long voyage, reached the northern island of New Zealand. Returning to his home with a flattering description of the country he had discovered, this chief, it is said, persuaded a number of his kinsfolk and friends, who were much harassed by war, to set out with a fleet of double canoes for the new land. The names of most of the canoes are still remembered, and each tribe agrees in its account of the doings of the people of the principal canoes after their arrival in New Zealand; and from these traditional accounts the descent of the numerous tribes has been traced. Calculations, based on the genealogical staves kept by the *tohungas*, or priests, and on the well-authenticated traditions of the people, indicate that about twenty-one generations have passed since the migration, which may therefore be assumed to have taken place about five hundred and twenty-five years ago. The position of the legendary Hawaiki is unknown, but many places in the South Seas have been thus named in memory of the mother-land. The Maoris speak a very pure dialect of the Polynesian language, the common tongue, with more or less variation, in all the Eastern Pacific Islands. When Captain Cook first visited New Zealand he availed himself of the services of a native from Tahiti, whose speech was easily understood by the Maoris. In this way much information respecting the early history of the country and its inhabitants was obtained which could not have otherwise been had.

For results of recent researches as to probable origin and present numbers of the Maoris, see Section III. of Part II., *post*.

BOUNDARIES AND AREA.

The Proclamation of Captain Hobson on the 30th January, 1840, gave as the boundaries of the colony the following degrees of latitude and longitude: On the north, 34° 30′ S. lat.; on the south, 47° 10′ S. lat.; on the east, 179° 0′ E. long.; on the west, 166° 5′ E. long. These limits excluded small portions of the extreme north of the North Island and of the extreme south of Stewart Island.

In April, 1842, by Royal Letters Patent, and again by the Imperial Act 26 and 27 Vict., c. 23 (1863), the boundaries of the colony were altered so as to extend from 33° to 53° of south latitude and from 162° of east longitude to 173° of west longitude. By Proclamation bearing date the 21st July, 1887, the Kermadec Islands, lying between the 29th and 32nd degrees of south latitude and the 177th and 180th degrees of west longitude, were declared to be annexed to and to become part of the Colony of New Zealand.

The following now constitute the Colony of New Zealand:—

1. The island commonly known as the North Island, with its adjacent islets, having an aggregate area of 44,468 square miles, or 28,459,520 acres.

2. The island known as the Middle Island, with adjacent islets, having an aggregate area of 58,525 square miles, or 37,456,000 acres.

3. Stewart Island, and adjacent islets, having an area of 665 square miles, or 425,390 acres.

4. The Chatham Islands, situate 536 miles eastward of Lyttelton in the Middle Island, with an area of 375 square miles, or 239,920 acres.

5. The Auckland Islands, about 200 miles south of Stewart Island, extending about 30 miles from north to south, and nearly 15 from east to west, the area being 210,650 acres.

6. The Campbell Islands, in latitude 52° 33′ south, and longitude 169° 8′ west, about 30 miles in circumference, with an area of 45,440 acres.

7. The Antipodes Islands, about 458 miles in a south-easterly direction from Port Chalmers, in the Middle Island. These are detached rocky islands, and extend over a distance of between 4 and 5 miles from north to south. Area, 12,960 acres.

8. The Bounty Islands, a small group of islets, thirteen in number, lying north of the Antipodes Islands, and about 415 miles in an east-south-easterly direction from Port Chalmers. Area, 3,300 acres.

9. The Kermadec Islands, a group lying about 614 miles to the north-east of Russell, in the Bay of Islands. Raoul or Sunday Island, the largest of these, is about 20 miles in circuit. The next in size is Macaulay Island, about 3 miles round. Area of the group, 8,208 acres.

The total area of the colony is thus about 104,471 square miles, of which the aggregate area of the outlying groups of islands that are practically useless for settlement amounts to about 438 square miles.

A protectorate is exercised by the Imperial Government over the Cook Islands (or Hervey Group) by Proclamation dated the 27th October, 1888. The British Resident* is appointed on the recommendation of the New Zealand Government. He acts as Government Agent for the colony in all matters of trade.

Area of the Australian Colonies.

The areas of the several Australian Colonies, as given by different authorities, vary considerably. The total area of the Australian Continent is given as 2,944,628 square miles, according to a computation made by the late Surveyor-General of Victoria, Mr. J. A. Skene, from a map of Continental Australia compiled and engraved under his direction; but the following areas are taken from the latest official records of each colony:—

---

* Lieut.-Colonel Walter Edward Gudgeon is now British Resident at Rarotonga. His salary is paid by this colony. He succeeded Mr. Frederick J. Moss, who was the first Resident appointed.

	Square Miles.
Queensland	668,497
New South Wales	310,700
Victoria	87,884
South Australia	903,690
Western Australia	975,920
Total Continent of Australia	2,946,691
Tasmania	26,215
New Zealand (including the Chatham and other islands)	104,471
Total Australasia	3,077,377

The size of these colonies may be better realised by comparison of their areas with those of European countries. The areas of the following countries—Austria-Hungary, Germany, France, Belgium, Holland, Denmark, Sweden and Norway, Portugal, Spain, Italy (including Sardinia and Sicily), Switzerland, Greece, Roumania, Bulgaria, Servia, Eastern Roumelia, and Turkey in Europe—containing on the whole rather less than 1,600,000 square miles, amount to little more than half the extent of the Australian Continent. If the area of Russia in Europe be added to those of the other countries the total would be about one-seventh larger than the Australian Continent, and about one-twelfth larger than the Australasian Colonies, including New Zealand.

Area of the Colony of New Zealand.

The area of the Colony of New Zealand is about one-seventh less than the area of Great Britain and Ireland, the Middle Island of New Zealand being a little larger than the combined areas of England and Wales.

United Kingdom.	Area in Square Miles.
England and Wales	58,311
Scotland	30,463
Ireland	32,531
Total	121,305

New Zealand.	Area in Square Miles.
North Island	44,468
Middle Island	58,525
Stewart Island	665
Chatham Islands	375
Other islands	438
Total	104,471

PHYSICAL FEATURES OF THE NORTH ISLAND.

The North Island extends over a little more than seven degrees of latitude—a distance in a direct line from north to south of 430 geographical or 498 statute miles; but, as the northern portion of the colony, which covers more than three degrees of latitude, trends to the westward, the distance in a straight line from the

North Cape to Cape Palliser, the extreme northerly and southerly points of the island, is about 515 statute miles.

This island is, as a whole, hilly, and, in parts, mountainous in character, but there are large areas of plain or comparatively level country that are, or by clearing may be made, available for agricultural purposes. Of these, the principal are the plains in Hawke's Bay on the East Coast, the Wairarapa Plain in the Wellington District, and a strip of country along the West Coast, about 250 miles in length, extending from a point about thirty miles from the City of Wellington to a little north of New Plymouth. The largest plain in the North Island, Kaingaroa, extends from the shore of Lake Taupo in a north-north-easterly direction to the sea-coast in the Bay of Plenty; but a great part of it is covered with pumice-sand, and is unfitted for tillage or pasture. There are several smaller plains and numerous valleys suitable for agriculture. The level or undulating country in this island fit, or capable of being made fit, for agriculture has been roughly estimated at 13,000,000 acres. This includes lands now covered with standing forest, and swamps that can be drained; also large areas of clay-marl and pumice-covered land. The clay-marl in its natural state is cold and uninviting to the farmer, but under proper drainage and cultivation it can be brought to a high state of productiveness. This kind of land is generally neglected at the present time, as settlers prefer soils more rapidly remunerative and less costly to work. The larger portion of the North Island was originally covered with forest. Although the area of bush-land is still very great, yet year by year the amount is being reduced, chiefly to meet the requirements of settlement, the trees being cut down and burnt, and grass-seed sown on the ashes to create pasture. Hilly as the country is, yet from the nature of the climate it is especially suited for the growth of English grasses, which will flourish wherever there is any soil, however steep the land may be; once laid down in grass very little of the land is too poor to supply food for cattle and sheep. The area of land in the North Island deemed purely pastoral or capable of being made so, while too steep for agricultural purposes, is estimated at 14,200,000 acres. In the centre of the island is a lake, about twenty miles across either way, called Taupo. A large area adjacent to the lake is at present worthless pumice-country. The Waikato River, the largest in the North Island, flows out of its north-eastern corner, and runs thence north-westward until it enters the ocean a little distance south of the Manukau Harbour. This river is navigable for small steamers for about a hundred miles from its mouth. The Maori King-country, occupied by Natives who for several years isolated themselves from Europeans, lies between Lake Taupo and the western coast. The River Thames, or Waihou, having its sources north of Lake Taupo, flows northward into the Firth of Thames. It is navigable for about fifty miles, but only for small steamers. The other navigable rivers in this island are the Wairoa (Kaipara), the Wanganui, and the Manawatu, the two last of which flow towards the south-west into Cook Strait.

The mountains in the North Island are estimated to occupy about one-tenth of the surface, and do not exceed 4,000ft. in height, with the exception of a few volcanic mountains that are more lofty. Of these, the three following are the most important:—

1. The Tongariro Mountain, situated to the southward of Lake Taupo. It consists of a group of distinct volcanic cones, the lava-streams from which have so overlapped in their descent as to form one compact mountain-mass at the base. The highest of these cones is called Ngauruhoe, and attains an elevation of 7,515ft. The craters of Ngauruhoe, the Red Crater (6,140ft.), and Te Mari (4,990ft.) are the three vents from which the latest discharges of lava have taken place, the most recent having occurred in 1868. These craters are still active, steam and vapour issuing from them with considerable force and noise, the vapours, charged with pungent gases and acids, making it dangerous to approach too near the crater-lips.

2. Ruapehu. This mountain lies to the south of Ngauruhoe and Tongariro. It is a volcanic cone in the solfatara stage, and reaches the height of 9,008ft., being in part considerably above the line of perpetual snow. The most remarkable feature of this mountain is the crater-lake on its summit, which is subject to slight and intermittent eruptions, giving rise to vast quantities of steam. Recently —in March, 1895—such an eruption took place, forming a few hot springs on the margin of the lake, and increasing the heat in the lake itself. This lake lies at the bottom of a funnel-shaped crater, the steep sides of which are mantled with ice and snow. The water occupies a circular basin about 500ft. in diameter, some 300ft. below the enclosing peaks, and is quite inaccessible except by the use of ropes. This lake, and the three craters previously mentioned on Tongariro, are all in one straight line, which, if produced, would pass through the boiling springs at Tokaanu on the southern margin of Lake Taupo, the volcanic country north-east of that lake, and White Island, an active volcano in the Bay of Plenty, situated about twenty-seven miles from the mainland.

3. Mount Egmont. This is an extinct volcanic cone, rising to a height of 8,260ft. The upper part is always covered with snow. This mountain is situated close to New Plymouth, and is surrounded by one of the most fertile districts in New Zealand. Rising from the plains in solitary grandeur, it is an object of extreme beauty, the cone being one of the most perfect in the world.

It is estimated that the area of mountain-tops and barren country at too high an altitude for sheep, and therefore worthless for pastoral purposes, amounts, in the North Island, to 300,000 acres.

Without a doubt the hot springs form the most remarkable feature of the North Island. They are found over a large area, extending from Tongariro, south of Lake Taupo, to Ohaeawai, in the extreme north—a distance of some 300 miles; but the principal seat of hydrothermal action appears to be in the neighbourhood of Lake Rotorua, about forty miles north-north-east from Lake Taupo. By the destruction of the famed Pink and White Terraces and of Lake Rotomahana during the eruption of Mount Tarawera on the 10th June, 1886, the neighbourhood has been deprived of attractions unique in character and of unrivalled beauty; but the natural features of the country—the numerous lakes, geysers, and hot springs, some of which possess remarkable curative properties in certain complaints—are still very attractive to tourists and invalids. The world-wide importance of conserving this region as a sanatorium for all time has been recognised by the Government, and it is now dedicated by Act of Parliament to that purpose.

Notwithstanding the length of coast-line, good harbours in the North Island are not numerous. Those on the west coast north of New Plymouth are bar-harbours, unsuitable for large vessels. The principal harbours are the Waitemata Harbour, on which Auckland is situated—this is rather a deep estuary than a harbour; several excellent havens in the northern peninsula; and Port Nicholson, on the borders of which Wellington is situated. This is a land-locked harbour, about six miles across, having a comparatively narrow but deep entrance from the ocean. The water is deep nearly throughout.

The Cape Colville Peninsula is rich in gold-bearing quartz.

Cook Strait.

Cook Strait separates the North and Middle Islands. It is some sixteen miles across at its narrowest part, but in the widest about ninety. The strait is invaluable for the purpose of traffic between different parts of the colony.

Physical Features of the Middle Island.

The extreme length of the Middle Island, from Jackson's Head, in Cook Strait, to Puysegur Point, at the extreme south-west, is about 525 statute miles; the greatest distance across at any point is in Otago (the southernmost) District, about 180 miles.

The Middle Island is intersected along almost its entire length by a range of mountains known as the Southern Alps. Some of the summits reach a height of from 10,000ft. to 12,000ft., Mount Cook, the highest peak, rising to 12,349ft.

In the south, in the neighbourhood of the sounds and Lake Te Anau, there are many magnificent peaks, which, though not of great height, are, owing to their latitude, nearly all crowned with perpetual ice and snow. Further north the mountains increase in height—Mount Earnslaw, at Lake Wakatipu; and Mount Aspiring, which has been aptly termed the New Zealand Matterhorn, 9,949 ft. in height, at Lake Wanaka. Northward of this again are Mount Cook (or Aorangi), Mount Sefton, and other magnificent peaks.

For beauty and grandeur of scenery the Southern Alps of New

Zealand may worthily compare with, while in point of variety they are said actually to surpass, the Alps of Switzerland. In New Zealand few of the mountains have been scaled; many of the peaks and most of the glaciers are as yet unnamed; and there is still, in parts of the Middle Island, a fine field for exploration and discovery—geographical, geological, and botanical. The wonders of the Southern Alps are only beginning to be known; but the more they are known the more they are appreciated. The snow-line in New Zealand being so much lower than in Switzerland, the scenery, though the mountains are not quite so high, is of surpassing grandeur.

There are extensive glaciers on both sides of the range, those on the west being of exceptional beauty, as, from the greater abruptness of the mountain-slopes on that side, they descend to within about 700ft. of the sea-level, and into the midst of the evergreen forest. The largest glaciers on either side of the range are easily accessible.

The following gives the sizes of some of the glaciers on the eastern slope:—

Name.	Area of Glacier.	Length of Glacier.	Greatest Width.	Average Width.
	Acres.	Miles ch.	Miles ch.	Miles ch.
Tasman	13,664	18 0	2 14	1 15
Murchison	5,800	10 70	1 5	0 66
Godley	5,312	8 0	1 55	1 3
Mueller	3,200	8 0	0 61	0 50
Hooker	2,416	7 25	0 54	0 41

The Alletsch Glacier in Switzerland, according to Ball, in the "Alpine Guide," has an average width of one mile. It is in length and width inferior to the Tasman Glacier.

Numerous sounds or fiords penetrate the south-western coast. They are long, narrow, and deep (the depth of water at the upper part of Milford Sound is 1,270ft., although at the entrance only 130ft.), surrounded by giant mountains clothed with foliage to the snow-line, with waterfalls, glaciers, and snowfields at every turn. Some of the mountains rise almost precipitously from the water's edge to 5,000ft. and 6,000ft. above the sea. Near Milford, the finest of these sounds, is the great Sutherland Waterfall, 1,904ft. high.

The general surface of the northern portion of the Middle Island, comprising the Provincial Districts of Nelson and Marlborough, is mountainous, but the greater part is suitable for grazing purposes. There are some fine valleys and small plains suitable for agriculture, of which the Wairau Valley or Plain is the largest. Deep sounds, extending for many miles, break the coast-line abutting on Cook Strait. The City of Nelson is situated at the head of Blind Bay, which has a depth inwards from Cook Strait of about forty statute miles.

The Provincial District of Canterbury lies to the south of the Marlborough District, and on the eastern side of the island. Towards the north the land is undulating; then there is a stretch of almost perfectly level country extending towards the south-west 160 miles, after which, on the south, the country is undulating as far as the borders of the Otago District. On the east a block of hill-country rises abruptly from the plain and extends for some miles seaward. This is Banks Peninsula, containing several good harbours, the principal being Port Cooper, on the north, on which is situated Lyttelton, the chief port of the district: the harbour of Akaroa, one of the finest in the colony, is on the southern coast of this peninsula.

The District of Otago is, on the whole, mountainous, but has many fine plains and valleys suitable for tillage. The mountains, except towards the west coast, are generally destitute of timber, and suitable for grazing sheep. There are goldfields of considerable extent in the interior of this district. The inland lakes are also very remarkable features. Lake Wakatipu extends over fifty-four miles in length, but its greatest width is not more than four miles, and its area only 114 square miles. It is 1,070ft. above sea-level, and has a depth varying from 1,170ft. to 1,296ft. Te Anau Lake is somewhat larger, having an area of 132 square miles. These lakes are bounded on the west by broken, mountainous, and wooded country, extending to the ocean.

The chief harbours in Otago are Port Chalmers, at the head of which Dunedin is situated, and the Bluff Harbour, at the extreme south.

The District of Westland, extending along the west coast of the Middle Island, abreast of Canterbury, is more or less auriferous throughout. The western slopes of the central range of mountains are clothed with forest-trees to the snow-line; but on the eastern side timber is scarce, natural grasses covering the ground.

The rivers in the Middle Island are for the most part mountain torrents, fed by glaciers in the principal mountain ranges. When the snow melts they rise in flood, forming, where not confined by rocky walls, beds of considerable width, generally covered by enormous deposits of shingle. The largest river in the colony as regards volume of water is the Clutha. It is 154 miles in length, but is only navigable for boats or small river-steamers for about thirty miles. The Rivers Buller, Grey, and Hokitika, on the West Coast, are navigable for a short distance from their mouths. They form the only ports in the Westland District. In their unimproved state they admitted, owing to the bars at their mouths, none but vessels of small draught; but, in consequence of the importance of the Grey and Buller Rivers as the sole ports available for the coal-export trade, large harbour-works have been undertaken, resulting in the deepening of the beds of these rivers, and giving a depth of from 18ft. to 26ft. of water on the bar.

The area of level or undulating land in the Middle Island available for agriculture is estimated at about 15,000,000 acres. About 13,000,000 are suitable for pastoral purposes only, or may become so when cleared of forest and sown with grass-seed. The area of barren land and mountain-tops is estimated at about 9,000,000 acres.

STEWART ISLAND.

Foveaux Strait separates the Middle from Stewart Island. This last island has an area of only 425,390 acres.

Stewart Island is a great tourist resort during the summer months, and is easily reached by steamer from the Bluff, distant about 25 miles.

The principal peak is Mount Anglem, 3,200 ft. above sea-level, which has an extinct crater at its summit. Most of the island is rugged and forest-clad; the climate is mild, frost being seldom experienced; and the soil, when cleared of bush, is fertile.

The chief attractions are the numerous bays and fiords. Paterson Inlet is a magnificent sheet of water, about ten miles by four miles, situated close to Half-moon Bay, the principal port, where between three and four hundred people live. Horse-shoe Bay and Port William are within easy reach of Half-moon Bay. Port Pegasus, a land-locked sheet of water about eight miles by a mile and a half, is a very fine harbour. At "The Neck" (Paterson Inlet) there is a Native settlement of over a hundred Maoris and half-castes. The bush is generally very dense, with thick undergrowth. Rata, black-pine, white-pine, miro, and totara are the principal timber trees. Fish are to be had in great abundance and variety; oysters form an important industry. Wild pigeons, ducks, and mutton-birds are plentiful.

The colour of gold is to be found all over the island.

THE OUTLYING ISLANDS.

The outlying group of the Chatham Islands, 480 statute miles east-south-east from Wellington, and 536 miles eastward of Lyttelton, consists of two principal islands and several unimportant islets. The largest island contains about 222,490 acres, of which an irregularly-shaped lake or lagoon absorbs 45,960 acres. About one quarter of the surface of the land is covered with forest, the rest with fern or grass. The hills nowhere rise to a great height. Pitt Island is the next in size; the area is 15,330 acres. The greater portion of both islands is used for grazing sheep.

The Kermadec group of islands, four in number, is situated between 29° 10′ and 31° 30′ south latitude, and between 177° 45′ and 179° west longitude. They are named Raoul or Sunday Island, Macaulay Island, Curtis Island, and L'Espérance or French Rock. The principal island, Sunday, is 600 miles distant from Auckland. The islands are volcanic, and in two of them signs of activity are still to be seen. The rainfall is plentiful, but not excessive. The climate is mild and equable, and slightly warmer than the north of New Zealand. The following are the areas of the islands and islets of the group: Sunday Island, 7,200 acres; Herald group of islets, 85 acres; Macaulay Island, 764 acres; Curtis Islands, 128 acres and 19 acres; L'Espérance, 12 acres: total, 8,208 acres. Sunday Island is twenty miles in circumference, roughly triangular in shape, and at the highest point 1,723ft. above the sea-level. It is rugged and broken over a very large extent of its surface, and, except in a few places, covered with forest. The soil everywhere on the island is very rich, being formed by the decomposition of a dark-coloured pumiceous tuff and a black andesitic lava, with which is closely mixed a fine vegetable mould. The great luxuriance and richness of the vegetation bear witness to the excellence of the soil, which is everywhere—except where destroyed by eruptions, and on the steep cliffs—the same rich loam. Want of water is one of the drawbacks. Three of the four lakes on the island are fresh, but so difficult of approach as to be practically useless.

The Auckland Islands are about 290 miles south of Bluff Harbour, their position being given on the Admiralty chart as latitude 50° 31′ 29″ S., and longitude 166° 19′ 12″ E. They have several good harbours. Port Ross, at the north end of the principal island, was described by the eminent French commander, D'Urville, as one of the best harbours of refuge in the known world. At the southern end of the island there is a through passage extending from the east to the west coast. It has been variously named Adam's Strait and Carnley Harbour, and forms a splendid sheet of water. The largest of the islands is about 27 miles long by about 15 miles broad, and is very mountainous, the highest part being about 2,000ft. above the sea. The west coast is bold and precipitous, but the east coast has several inlets. The wood on the island is, owing to the strong prevailing wind, scrubby in character. The New Zealand Government maintains at this island a dépôt of provisions and clothing for the use of shipwrecked mariners.

CONSTITUTION.

British sovereignty was proclaimed over New Zealand in January, 1840, and the country became a dependency of New South Wales until the 3rd May, 1841, when it was made a separate colony. The seat of Government was at Auckland, and the Executive included the Governor, and three gentlemen holding office as Colonial Secretary, Attorney-General, and Colonial Treasurer.

The successors of these gentlemen, appointed in August, 1841, May, 1842, and January, 1844, respectively, continued in office until the establishment of Responsible Government on the 7th May, 1856. Only one of them—Mr. Swainson, the Attorney-General—sat as a member of the first General Assembly, opened on the 27th May, 1854. During the session of that year there were associated with the permanent members of the Executive Council certain members of the General Assembly. These latter held no portfolios.

The Government of the colony was at first vested in the Governor, who was responsible only to the Crown; but in 1852 an Act granting representative institutions to the colony was passed by the Imperial Legislature. Under it the constitution of a General Assembly for the whole colony was provided for, to consist of a Legislative Council, the members of which were to be nominated by the Governor, and of an elective House of Representatives. The first session of the General Assembly was opened on the 27th May, 1854, but the members of the Executive were not responsible to Parliament. The first Ministers under a system of Responsible Government were appointed on the 18th April, 1856. By the Act of 1852 the colony was divided into six provinces, each to be presided over by an elective Superintendent, and to have an elective Provincial Council, empowered to legislate, except on certain specified subjects. The franchise amounted practically to household suffrage. In each case the election was for four years, but a dissolution of the Provincial Council by the Governor could take place at any time, necessitating a fresh election both of the Council and of the Superintendent. The Superintendent was chosen by the whole body of electors of the province; each member of the Provincial Council by the electors of a district. The Provincial Governments, afterwards increased to nine, remained as integral parts of the Constitution of the colony until the 1st November, 1876, when they were abolished by an Act of the General Assembly, that body having been vested with the power of altering the Constitution Act. On the same day an Act of the General Assembly which subdivided the colony (exclusive of the areas included within municipalities) into counties, and established a system of local county government, came into force.

GOVERNMENT.

The Governor is appointed by the Queen. His salary is £5,000 a year, and is provided by the colony.

Members of the Legislative Council hold their seats under writs of summons from the Governor. Till the year 1891 the appointments were for life; but in September of that year an Act was passed making appointments after that time tenable for seven years only, though Councillors may be reappointed. In either case seats may be vacated by resignation or extended absence. Two members of the Council are aboriginal native chiefs.

The members of the House of Representatives are elected for three years from the time of each general election; but at any time a dissolution of Parliament by the Governor may render a general election necessary. Four of the members are representatives of Native constituencies. An Act was passed in 1887 which provided that, on the dissolution of the then General Assembly, the number of members to be thereafter elected to the House of Representatives should be seventy-four in all, of whom four were to be elected, under the provisions of the Maori Representation Acts, as representatives of Maori electors only. For the purposes of European representation the colony is divided into sixty-two electoral districts, four of which—the Cities of Auckland, Wellington, Christchurch, and Dunedin—return each three members, and all the other electorates one each. Members of the House of Representatives are chosen by the votes of the inhabitants in every electoral district appointed for that purpose. By "The Members of the House of Representatives Disqualification Act, 1897," no person, who, being a bankrupt within the meaning of "The Bankruptcy Act, 1892," has not obtained an order of discharge under that Act shall be qualified to be nominated as a candidate for election, or to be elected, or to take his seat as a member of the House of Representatives, anything in "The Electoral Act, 1893," or any other Act to the contrary notwithstanding.

In 1889 an amendment of the Representation Act was passed, which contained a provision prohibiting any elector from giving his vote in respect of more than one electorate at any election. "The Electoral Act, 1893," extended to women of both races the right to register as electors, and to vote at the elections for members of the House of Representatives. The qualification for registration is the same for both sexes. No person is entitled to be registered on more than one electoral roll within the colony. Women are not qualified to be elected as members of the House of Representatives. The electoral laws are the subject of special comment further on in this work. Every man registered as an elector, and not coming within the meaning of section 8 of "The Electoral Act, 1893," is qualified to be elected a member of the House of Representatives for any electoral district. For European representation every adult person, if resident one year in the colony and three months in one electoral district, can be registered as an elector. Freehold property of the value of £25 held for six months preceding the day of registration until 1896 entitled a man or woman to register, if not already registered under the residential qualification. But the Amendment Act of 1896 abolished the property qualification (except in case of existing registrations), and residence alone now entitles a man or woman to have his or her name placed upon an electoral roll. For Maori representation every adult Maori resident in any Maori electoral district (of which there are four only in the colony) can vote. Registration is not required in Native districts.

THE SEAT OF GOVERNMENT.

Up to the year 1865 the seat of Government of New Zealand was at Auckland. Several attempts were made by members of Parliament, by motions in the Legislative Council and House of Representatives, to have it removed to some more central place; but it was not until November, 1863, that Mr. Domett (the then ex-Premier) was successful in carrying resolutions in the House of Representatives that steps should be taken for appointing some place in Cook Strait as the permanent seat of Government in the colony. The resolutions adopted were: "(1.) That it has become necessary that the seat of Government in the colony should be transferred to some suitable locality in Cook Strait. (2.) That, in order to promote the accomplishment of this object, it is desirable that the selection of the particular site in Cook Strait should be left to the arbitrament of an impartial tribunal. (3.) That, with this view, a Bill should be introduced to give effect to the above resolutions." On the 25th November an address was presented to the Governor, Sir George Grey, K.C.B., by the Commons of New Zealand, requesting that the Governors of the Colonies of New South Wales, Victoria, and Tasmania, might each be asked to appoint one Commissioner for the purpose of determining the best site in Cook Strait. Accordingly, the Hon. Joseph Docker, M.L.C., New South Wales; the Hon. Sir Francis Murphy, Speaker of the Legislative Council, Victoria; and R. C. Gunn, Esq., Tasmania, were appointed Commissioners.

These gentlemen, having made a personal inspection of all suitable places, arrived at the unanimous decision "that Wellington, in Port Nicholson, was the site upon the shores of Cook Strait which presented the greatest advantages for the administration of the government of the colony."

The seat of Government was, therefore, in accordance with the recommendation of the Commissioners, removed to Wellington in February, 1865.

Public Works.

Nearly all the public works of New Zealand are in the hands of the Government of the colony, and in the early days they simply kept pace with the spread of settlement. In 1870, however, a great impetus was given to the progress of the whole country by the inauguration of the "Public Works and Immigration Policy," which provided for carrying out works in advance of settlement. Railways, roads, and water-races were constructed, and immigration was conducted on a large scale. As a consequence, the population increased from 267,000 in 1871 to 501,000 in 1881, and to 743,463 at the close of the year 1898, exclusive of Maoris.

SUCCESSIVE GOVERNORS.

Succession of Governors of New Zealand, and the Dates on which they assumed and retired from the Government.

Captain William Hobson, R.N., from Jan., 1840, to 10 Sept., 1842.

[British sovereignty was proclaimed by Captain Hobson in January, 1840, and New Zealand became a dependency of the Colony of New South Wales until 3rd May, 1841, at which date it was proclaimed a separate colony. From January, 1840, to May, 1841, Captain Hobson was Lieutenant-Governor of New Zealand under Sir George Gipps, Governor of New South Wales, and from May, 1841, Governor of New Zealand; the seat of Government being at Auckland, where he died in September, 1842. From the time of Governor Hobson's death, in September, 1842, until the arrival of Governor Fitzroy, in December, 1843, the Government was carried on by the Colonial Secretary, Lieutenant Shortland.]

Lieutenant Shortland, Administrator, from 10 Sept., 1842, to 26 Dec., 1843.

Captain Robert Fitzroy, R.N., from 26 Dec., 1843, to 17 Nov., 1845.

Captain Grey (became Sir George Grey, K.C.B., in 1848), from 18 Nov., 1845, to 31 Dec., 1853.

[Captain Grey held the commission as Lieutenant-Governor of the colony until the 1st January, 1848, when he was sworn in as Governor-in-Chief over the Islands of New Zealand, and as Governor of the Province of New Ulster and Governor of the Province of New Munster. After the passing of the New Zealand Constitution Act, Sir George Grey was, on the 13th September, 1852, appointed Governor of the colony, the duties of which office he assumed on the 7th March, 1853. In August, 1847, Mr. E. J. Eyre was appointed Lieutenant-Governor of New Munster: he was sworn in, 28th January, 1848. On 3rd January, 1848, Major-General George Dean Pitt was appointed Lieutenant-Governor of New Ulster: he was sworn in, 14th February, 1848; died, 8th January, 1851; and was succeeded as Lieutenant-Governor by Lieutenant-Colonel Wynyard, appointed 14th April, 1851; sworn in, 26th April, 1851. The duties of the Lieutenant-Governor ceased on the assumption by Sir George Grey of the office of Governor, on the 7th March, 1853.]

Lieutenant-Colonel Robert Henry Wynyard, C.B., Administrator, from 3 Jan., 1854, to 6 Sept., 1855.

Colonel Thomas Gore Browne, C.B., from 6 Sept., 1855, to 2 Oct., 1861.

Sir George Grey, K.C.B., Administrator, from 3 Oct., 1861; Governor, from 4 Dec., 1861, to 5 Feb., 1868.

Sir George Ferguson Bowen, G.C.M.G., from 5 Feb., 1868, to 19 Mar., 1873.

Sir George Alfred Arney, Chief Justice, Administrator, from 21 Mar. to 14 June, 1873.

Sir James Fergusson, Baronet, P.C., from 14 June, 1873, to 3 Dec., 1874.

The Marquis of Normanby, P.C., G.C.M.G., Administrator, from 3 Dec., 1874; Governor, from 9 Jan., 1875, to 21 Feb., 1879.

James Prendergast, Esquire, Chief Justice, Administrator, from 21 Feb. to 27 Mar., 1879.

Sir Hercules George Robert Robinson, G.C.M.G., Administrator, from 27 Mar., 1879; Governor, from 17 April, 1879, to 8 Sept., 1880.

James Prendergast, Esquire, Chief Justice, Administrator, from 9 Sept. to 29 Nov., 1880.

The Honourable Sir Arthur Hamilton Gordon, G.C.M.G., from 29 Nov., 1880, to 23 June, 1882.

Sir James Prendergast, Chief Justice, Administrator, from 24 June, 1882, to 20 Jan., 1883.

Lieutenant-General Sir William Francis Drummond Jervois, G.C.M.G., C.B., from 20 Jan., 1883, to 22 Mar., 1889.

Sir James Prendergast, Chief Justice, Administrator, from 23 Mar. to 2 May, 1889.

The Earl of Onslow, G.C.M.G., from 2 May, 1889, to 24 Feb., 1892.

Sir James Prendergast, Chief Justice, Administrator, from 25 Feb., to 6 June, 1892.

The Earl of Glasgow, G.C.M.G., from 7 June, 1892, to 6 Feb., 1897.

Sir James Prendergast, Chief Justice, Administrator, from 8 Feb., 1897, to 9th Aug., 1897.

The Earl of Ranfurly, K.C.M.G., from 10th Aug., 1897.

SUPREME COURT JUDGES.

SUPREME COURT JUDGES, PAST AND PRESENT, WITH DATES OF APPOINTMENT, AND OF RESIGNATION OR DEATH.

Sir W. Martin, appointed Chief Justice, 10 Jan., 1842. Resigned, 12 June, 1857.

H. S. Chapman, appointed, 26 Dec., 1843. Resigned, 30 July, 1850. Reappointed, 23 Mar., 1864. Resigned, 31 Mar., 1875.

S. Stephen, appointed, 30 July, 1850. Appointed Acting Chief Justice, 20 Oct., 1855. Died, 13 Jan., 1858.

Daniel Wakefield, appointed, Oct., 1855. Died, Oct., 1857.

H. B. Gresson, appointed temporarily, 8 Dec., 1857. Permanently, 1 July, 1862. Resigned, 31 Mar., 1875.

Sir G. A. Arney, appointed Chief Justice, 1 Mar., 1858. Resigned, 31 Mar., 1875.

A. J. Johnston, appointed, 2 Nov., 1858. Died, 1 June, 1888.

C. W. Richmond, appointed, 20 Oct., 1862. Died, 3 Aug., 1895.

J. S. Moore, appointed temporarily, 15 May, 1866. Relieved, 30 June, 1868.

C. D. R. Ward, appointed temporarily, 1 Oct., 1868. Relieved, May, 1870. Appointed temporarily, 21 Sept., 1886. Relieved, 12 Feb., 1889.

Sir J. Prendergast, appointed Chief Justice, 1 April, 1875.

T. B. Gillies, appointed, 3 Mar., 1875. Died, 26 July, 1889.

J. S. Williams, appointed, 3 Mar., 1875.

J. E. Denniston, appointed, 11 Feb., 1889.

E. T. Cônolly, appointed, 19 Aug., 1889.

Hon. Sir P. A. Buckley, K.C.M.G., appointed, 20 Dec., 1895. Died, 18 May, 1896.

W. B. Edwards, appointed, 11 July, 1896.

F. W. Pennefather, appointed temporarily, 25 April, 1898.

EXECUTIVE COUNCIL, 1843–56.

MEMBERS OF THE EXECUTIVE COUNCIL OF THE COLONY OF NEW ZEALAND PREVIOUS TO THE ESTABLISHMENT OF RESPONSIBLE GOVERNMENT (NOT INCLUDING THE OFFICERS COMMANDING THE FORCES).

Willoughby Shortland, Colonial Secretary, from 3 May, 1841, to 31 Dec., 1843; succeeded by Mr. Sinclair.

Francis Fisher, Attorney-General, from 3 May to 10 Aug., 1841; succeeded by Mr. Swainson.

George Cooper, Colonial Treasurer, from 3 May, 1841, to 9 May, 1842; succeeded by Mr. Shepherd.

William Swainson, Attorney-General, from 10 Aug., 1841, to 7 May, 1856.

Alexander Shepherd, Colonial Treasurer, from 9 May, 1842, to 7 May, 1856.

Andrew Sinclair, Colonial Secretary, from 6 Jan., 1844, to 7 May, 1856.

[The three gentlemen last mentioned were nominated by Her Majesty as *ex officio* members of the Executive Council. Two of them, the Colonial Secretary and the Colonial Treasurer, were not members of the General Assembly, opened for the first time 27th May, 1854, but all three remained in office until the establishment of Responsible Government.]

James Edward FitzGerald, M.H.R., without portfolio, from 14 June to 2 Aug., 1854.

Henry Sewell, M.H.R., without portfolio, from 14 June to 2 Aug., 1854.

Frederick Aloysius Weld, M.H.R., without portfolio, from 14 June to 2 Aug., 1854.

Francis Dillon Bell, M.L.C., without portfolio, from 30 June to 11 July, 1854.

Thomas Houghton Bartley, M.L.C., without portfolio, from 14 July to 2 Aug., 1854.

Thomas Spencer Forsaith, M.H.R., without portfolio, from 31 Aug. to 2 Sept., 1854.

Edward Jerningham Wakefield, M.H.R., without portfolio, from 31 Aug. to 2 Sept., 1854.

William Thomas Locke Travers, M.H.R., without portfolio, 31 Aug. to 2 Sept., 1854.

James Macandrew, M.H.R., without portfolio, from 31 Aug. to 2 Sept., 1854.

PARLIAMENTS.

NUMBER OF PARLIAMENTS SINCE THE CONSTITUTION ACT PASSED FOR CONFERRING REPRESENTATIVE INSTITUTIONS UPON THE COLONY OF NEW ZEALAND, WITH THE DATES OF OPENING AND CLOSING OF SESSIONS AND DATES OF DISSOLUTION.

Parliament.	Date of Opening of Sessions.	Date of Prorogation.
First (dissolved 15th September, 1855)	27 May, 1854 .. 31 August, 1854 .. 8 August, 1855 ..	9 August, 1854. 16 September, 1854. 15 September, 1855.
Second (dissolved 5th November, 1860)	15 April, 1856 .. (No session in 1857) 10 April, 1858 .. (No session in 1859) 30 July, 1860 ..	16 August, 1856. 21 August, 1858. 5 November, 1860.
Third (dissolved 27th January, 1866)	3 June, 1861 .. 7 July, 1862 .. 19 October, 1863 .. 24 November, 1864 26 July, 1865 ..	7 September, 1861. 15 September, 1862. 14 December, 1863. 13 December, 1864. 30 October, 1865.
Fourth (dissolved 30th December, 1870)	30 June, 1866 .. 9 July, 1867 .. 9 July, 1868 .. 1 June, 1869 .. 14 June, 1870 ..	October, 1866. 10 October, 1867. 20 October, 1868. 3 September, 1869. 13 September, 1870.
Fifth (dissolved 6th December, 1875)	14 August, 1871 .. 16 July, 1872 .. 15 July, 1873 .. 3 July, 1874 .. 20 July, 1875 ..	16 November, 1871. 25 October, 1872. 3 October, 1873. 31 August, 1874. 21 October, 1875.
Sixth (dissolved 15th August, 1879)	15 June, 1876 .. 19 July, 1877 .. 26 July, 1878 .. 11 July, 1879 ..	31 October, 1876. 10 December, 1877. 2 November, 1878. 11 August, 1879.
Seventh (dissolved 8th November, 1881)	24 September, 1879 28 May, 1880 .. 9 June, 1881 ..	19 December, 1879. 1 September, 1880. 24 September, 1881.
Eighth (dissolved 27th June, 1884)	18 May, 1882 .. 14 June, 1883 .. 5 June, 1884 ..	15 September, 1882. 8 September, 1883. 24 June, 1884.

PARLIAMENTS—*continued.*

Parliament.	Date of Opening of Sessions.	Date of Prorogation.
Ninth (dissolved 15th July, 1887) ..	7 August, 1884 .. 11 June, 1885 .. 13 May, 1886 .. 26 April, 1887 ..	10 November, 1884. 22 September, 1885. 18 August, 1886. 10 July, 1887.
Tenth (dissolved 3rd October, 1890)	6 October, 1887 .. 10 May, 1888 .. 20 June, 1889 .. 19 June, 1890 ..	23 December, 1887. 31 August, 1888. 19 September, 1889. 18 September, 1890.
Eleventh (dissolved 8th November, 1893)	23 January, 1891 .. 11 June, 1891 .. 23 June, 1892 .. 22 June, 1893 ..	31 January, 1891. 5 September, 1891. 12 October, 1892. 7 October, 1893.
Twelfth (dissolved 14th November, 1896)	21 June, 1894 .. 20 June, 1895 .. 11 June, 1896 ..	24 October, 1894. 2 November, 1895. 19 October, 1896.
Thirteenth	7 April, 1897 .. 23 September, 1897 24 June, 1898 ..	12 April, 1897. 22 December, 1897. 5 November, 1898.

SUCCESSIVE MINISTRIES

SINCE THE ESTABLISHMENT OF RESPONSIBLE GOVERNMENT IN NEW ZEALAND IN 1856.

Name of Ministry.	Assumed Office.	Retired.
1. Bell-Sewell	7 May, 1856 ..	20 May, 1856.
2. Fox	20 May, 1856 ..	2 June, 1856.
3. Stafford	2 June, 1856 ..	12 July, 1861.
4. Fox	12 July, 1861 ..	6 August, 1862.
5. Domett	6 August, 1862 ..	30 October, 1863.
6. Whitaker-Fox..	30 October, 1863 ..	24 November, 1864.
7. Weld	24 November, 1864	16 October, 1865.
8. Stafford	16 October, 1865 ..	28 June, 1869.
9. Fox	28 June, 1869 ..	10 September, 1872.
10. Stafford	10 September, 1872	11 October, 1872.
11. Waterhouse	11 October, 1872 ..	3 March, 1873.
12. Fox	3 March, 1873 ..	8 April, 1873.
13. Vogel	8 April, 1873 ..	6 July, 1875.
14. Pollen	6 July, 1875 ..	15 February, 1876.
15. Vogel	15 February, 1876	1 September, 1876.

SUCCESSIVE MINISTRIES—*continued*.

Name of Ministry.	Assumed Office.	Retired.
16. Atkinson	1 September, 1876	13 September, 1876.
17. Atkinson (reconstituted)	13 September, 1876	13 October, 1877.
18. Grey	15 October, 1877	8 October, 1879.
19. Hall	8 October, 1879	21 April, 1882.
20. Whitaker	21 April, 1882	25 September, 1883.
21. Atkinson	25 September, 1883	16 August, 1884.
22. Stout-Vogel	16 August, 1884	28 August, 1884.
23. Atkinson	28 August, 1884	3 September, 1884.
24. Stout-Vogel	3 September, 1884	8 October, 1887.
25. Atkinson	8 October, 1887	24 January, 1891.
26. Ballance	24 January, 1891	1 May, 1893.[*]
27. Seddon	1 May, 1893.	

[*] Owing to the death of the Premier, the Hon. J. Ballance, on 27th April, 1893.

PREMIERS OF SUCCESSIVE MINISTRIES.

Name of Premier.
Henry Sewell.
William Fox.
Edward William Stafford.
William Fox.
Alfred Domett.
Frederick Whitaker.
Frederick Aloysius Weld.
Edward William Stafford.
William Fox.
Hon. Edward William Stafford.
George Marsden Waterhouse.
Hon. William Fox.
Hon. Julius Vogel, C.M.G.
Daniel Pollen, M.L.C.
Sir Julius Vogel, K.C.M.G.
Harry Albert Atkinson.
Harry Albert Atkinson (Ministry reconstituted).
Sir George Grey, K.C.B.
Hon. John Hall.
Frederick Whitaker, M.L.C.
Harry Albert Atkinson.
Robert Stout.
Harry Albert Atkinson.
Sir Robert Stout, K.C.M.G.
Sir Harry Albert Atkinson, K.C.M.G.
John Ballance.
Rt. Hon. Richard John Seddon, P.C.

SPEAKERS OF THE LEGISLATIVE COUNCIL,
WITH DATES OF THEIR APPOINTMENT AND DATES OF RETIREMENT OR DEATH.

Name of Speaker.	Date of Appointment.	Date of Retirement or Death.
Hon. William Swainson	16 May, 1854	8 August, 1855.
Hon. Frederick Whitaker	8 August, 1855	12 May, 1856.
Hon. Thomas Houghton Bartley	12 May, 1856	1 July, 1868.
Hon. Sir John Larkins Cheese Richardson, Kt.	1 July, 1868	14 June, 1879.
Hon. Sir William Fitzherbert, K.C.M.G.	14 June, 1879	23 January, 1891.
Hon. Sir Harry Albert Atkinson, K.C.M.G.	23 January, 1891	28 June, 1892.
Hon. Henry John Miller	8 July, 1892.	

SPEAKERS OF THE HOUSE OF REPRESENTATIVES,
WITH DATES OF THEIR ELECTION AND DATES OF RETIREMENT.

Name of Speaker.	Date of Election.	Date of Retirement.
Sir Charles Clifford, Bart.	26 May, 1854	
	15 April, 1856 ..	3 June, 1861.
Sir David Monro, Kt. Bach. ..	3 June, 1861	
	30 June, 1866 ..	13 Sept., 1870.
Sir Francis Dillon Bell, K.C.M.G., C.B.	14 August, 1871 ..	21 October, 1875.
Sir William Fitzherbert, K.C.M.G. ..	15 June, 1876 ..	13 June, 1879.
Sir George Maurice O'Rorke, Kt. Bach.	11 July, 1879	
	24 September, 1879	
	18 May, 1882	
	7 August, 1884	
	6 October, 1887	3 October, 1890.
Hon. Major William Jukes Steward ..	23 January, 1891	8 November, 1893.
Hon. Sir George Maurice O'Rorke, Kt. Bach.	21 June, 1894	
	6 April, 1897.	

FOREIGN CONSULS.
CONSULS OF FOREIGN COUNTRIES RESIDING IN, OR WITH JURISDICTION OVER, NEW ZEALAND, APRIL, 1899.

Country represented.	Office held.	Name.	Place of Residence.
Austria-Hungary	Consul ..	E. Langguth	Auckland.
Belgium ..	Consul-General	Edouard Pollet	Melbourne.
" ..	Consul ..	Charles John Johnston ..	Wellington.
" ..	" ..	Joseph James Kinsey ..	Christchurch.
" ..	" ..	J. Burns	Auckland.
" ..	" ..	Hon. Richard Oliver, M.L.C.	Dunedin.
Chili	" ..	William Brown	Sydney.
Denmark ..	Consul (for North Island); Chief Consular Officer in New Zealand	Eduard Valdemar Johansen	Auckland.
" ..	Consul (for South Island)	Emil Christian Skog ..	Christchurch.
" ..	Vice-Consul ..	Francis Henry Dillon Bell ..	Wellington.
" ..	" ..	Edmund Quick	Dunedin.
France ..	Consul (for New Zealand)	Count Louis Antoine Marie Joseph Henri De Courte	Wellington.
" ..	Acting Consular Agent	Professor William Michael Clarke	Christchurch.
" ..	Consular Agent	George Dunnet	Auckland.
" ..	"	Percival Clay Neill ..	Dunedin.
German Empire	Consul-General	— Kempermann	Sydney.
"	Consul ..	Bendix Hallenstein ..	Dunedin.
"	" ..	Philip Kippenberger ..	Christchurch.
"	" ..	Friedrich August Krull ..	Wanganui.
"	" ..	Carl Seegner	Auckland.
"	Vice-Consul ..	Eberhard Focke	Wellington.

FOREIGN CONSULS—*continued*.

Country represented.	Office held.	Name.	Place of Residence.
Hawaiian Islands	Consul-General (for Australasia)	W. E. Dixon	Sydney.
〃	Consul	James Macfarlane	Auckland.
〃	〃	William Godfrey Neill	Dunedin.
Italy	Consul-General (in Australia)	Commendatore P. Corte	Melbourne.
〃	Consular Agent	(Vacant)	Christchurch.
〃	〃	George Fisher	Wellington.
〃	〃	Edward Bowes Cargill	Dunedin.
〃	〃	Geraldo Giuseppe Perotti	Greymouth.
〃	〃	R. Rose (acting)	Auckland.
Japan	Consul	A. S. Aldrich	Wellington.
Netherlands	Consul-General	J. C. T. Reelfs	Melbourne.
〃	Consul	Charles John Johnston	Wellington.
〃	Vice-Consul	Edward Bowes Cargill	Dunedin.
〃	〃	Ambrose Millar	Auckland.
〃	〃	Harold Featherston Johnston	Wellington.
Portugal	Consul	John Duncan	〃
〃	Acting Consul	Ian Gavin Duncan	〃
〃	Vice-Consul	Henry Rees George	Auckland.
〃	〃	Edmund Quick	Dunedin.
〃	Acting Vice-Consul	Charles William Rattray	〃
Russia	Consul	Baron d'Ungern-Sternberg	Melbourne.
Spain	Vice-Consul	(Vacant)	Christchurch.
〃	Acting	Thomas Jamieson	〃
Sweden and Norway	Consul	Edward Pearce	Wellington.
〃	Acting Consul	Arthur Edward Pearce	Wellington.
〃	Vice-Consul	Eduard Valdemar Johansen	Auckland.
〃	〃	Frank Graham	Christchurch.
United States	Consul (for New Zealand)	Frank Dillingham	Auckland.
〃	Vice-Consul	Leonard A. Bachelder	Auckland.
〃	Consular Agent	Robert Pitcaithley	Christchurch.
〃	〃	John Duncan	Wellington.
〃	〃	William Godfrey Neill	Dunedin.

AGENT-GENERAL FOR NEW ZEALAND IN LONDON.

The Hon. W. P. Reeves, Westminster Chambers, 13, Victoria Street, S.W. Secretary—Walter Kennaway, C.M.G.

AGENTS-GENERAL FOR AUSTRALASIA.

Queensland.—The Hon. Sir Horace Tozer, K.C.M.G., Westminster Chambers, 1, Victoria Street, S.W. Secretary—Charles Shortt Dicken, C.M.G.

New South Wales.—Sir Daniel Cooper, Bart., G.C.M.G. (acting), Westminster Chambers, 9, Victoria Street, S.W. Secretary—S. Yardley, C.M.G.

Victoria.—Lieut.-General Hon. Sir Andrew Clarke, R.E., G.C.M.G., 15, Victoria Street, S.W. Secretary—S. B. H. Rodgerson.

South Australia.—The Hon. J. A. Cockburn, M.D., Victoria Chambers, 15, Victoria Street, S.W. Secretary—T. F. Wickstead.

Western Australia.—The Hon. Edward Horne Wittenoom, 15, Victoria Street, Westminster, S.W. Secretary—Reginald Charles Hare.

Tasmania.—The Hon. Sir Philip Oliver Fysh, K.C.M.G., Westminster Chambers, 5, Victoria Street, S.W.

THE COLONIAL OFFICE.

APRIL, 1899.

(DOWNING STREET, S.W., LONDON), WITH DATES OF APPOINTMENT.

Principal Secretary of State for the Colonies—The Right Hon. Joseph Chamberlain, M.P., 28th June, 1895.

Under-Secretaries: Parliamentary—The Right Hon. the Earl of Selborne, 28th June, 1895. Permanent—Sir Edward Wingfield, K.C.B., B.C.L., 1st March, 1897.

Assistant Under-Secretaries: Frederick Graham, 1st March, 1897; Charles P. Lucas; H. B. Cox (Legal); and Reginald L. Antrobus, C.B.

CROWN AGENTS FOR THE COLONIES.

DOWNING STREET, S.W. CITY OFFICE: 1, TOKENHOUSE BUILDINGS, E.C., LONDON.

Crown Agents—Sir Montagu Frederick Ommanney, K.C.M.G., Ernest Edward Blake, and Major Maurice Alexander Cameron, R.E.

HONOURS HELD BY COLONISTS.

Buller, Sir Walter Lawry, F.R.S., C.M.G., 1875; K.C.M.G., 1886.
Grace, Hon. Morgan Stanislaus, C.M.G., 1890.
Hall, Hon. Sir John, K.C.M.G., 1882.
Hector, Sir James, F.R.S., C.M.G., 1875; K.C.M.G., 1887.
Kennaway, Walter, Esq., C.M.G., 1897.
O'Rorke, Hon. Sir George Maurice, Knt. Bach., 1880.
Perceval, Sir Westby Brook, K.C.M.G, 1894.
Prendergast, Sir James, Knt. Bach., 1881.
Richardson, Hon. Edward, C.M.G., 1879.
Roberts, John, Esq., C.M.G., 1891.
Seddon, Right Hon. Richard John, P.C., 1897.
Stafford, Hon. Sir Edward William, K.C.M.G., 1879; G.C.M.G., 1887.
Stout, Hon. Sir Robert, K.C.M.G., 1886.
Whitmore, Hon. Colonel Sir George Stoddart, C.M.G., 1869; K.C.M.G., 1882.

Persons allowed to retain the Title of "Honourable" within Her Majesty's Dominions.

By despatch from the Secretary of State for the Colonies, dated Downing Street, 15th June, 1893, His Excellency the Governor was apprised that the title of "Honourable," appertaining to Members of the Executive and Legislative Councils in colonies possessing Responsible Government, whether confined to duration of office or continued for life, is approved by Her Majesty for use and recognition throughout her dominions, either during office or for life, as the case may be.

By further despatch of 10th March, 1894, the Secretary of State announces that he is prepared in future to submit for the approval of the Queen the recommendation of the Governor of any colony having Responsible Government that the President of the Legislative Council or the Speaker of the Legislative Assembly may, on quitting office after three years' service in their respective offices, be permitted to retain the title of "Honourable." This title is now held by Sir G. M. O'Rorke and Major William Jukes Steward.

Besides the Members of the Executive and Legislative Councils, the following ex-Ministers whose names do not appear in the list given above are allowed, as such, to retain the title of "Honourable": Bryce, John, 1884; Dick, Thomas, 1884; Fergus, Thomas, 1891; Haultain, Colonel T. M., 1870; Hislop, Thomas W., 1891; Johnston, Walter W., 1884; Mitchelson, Edwin, 1891; Oliver, Richard, 1884; Reeves, William P., 1896; Richardson, George F., 1891; Rolleston, William, 1884; Tole, Joseph A., 1888; Ward, Joseph George, 1896.

GOVERNOR OF NEW ZEALAND.

Ranfurly, His Excellency The Right Honourable Sir Uchter John Mark, fifth Earl of (Ireland, 1831), Viscount Northland (1791), Baron Welles (1781), Lord-in-Waiting to Her Majesty (1895–1897), Knight Commander of the Most Distinguished Order of Saint Michael and Saint George; Knight of Justice and Member of the Council of the Order of St. John of Jerusalem; son of third earl, brother of fourth earl; born 14th August, 1856; succeeded 1875; married, 1880, The Honourable Constance Elizabeth, only child of seventh Viscount Charlemont, C.B. Living issue: One son (Viscount Northland), two daughters (Ladies Constance and Eileen Knox). Appointed 6th April, 1897, and assumed office 10th August, 1897, as Governor and Commander-in-Chief in and over Her Majesty's Colony of New Zealand and its Dependencies. Salary, £5,000. Residences: Northland House, Dungannon, Ireland; Government House, Wellington; Government House, Auckland.

Private Secretary and Aide-de-Camp: Dudley Alexander (Captain, "The Prince of Wales's Own"—West Yorkshire—Regiment).

Assistant Private Secretary: The Honourable Charles Edward Hill-Trevor.

Aide-de-Camp: Henry Dudley Ossulston Ward (Lieutenant, Royal Horse Artillery).

Extra Aide-de-Camp: Arthur Charles Wellesley (Lieutenant, 4th Battalion Lincolnshire Regiment).

ADMINISTRATOR OF THE GOVERNMENT.—The Chief Justice holds a dormant commission.

EXECUTIVE COUNCIL.

APRIL, 1899.

His Excellency the GOVERNOR presides.

Rt. Hon. R. J. Seddon, P.C., Premier, Colonial Treasurer, Commissioner of Trade and Customs, Postmaster-General, Electric Telegraph Commissioner, Minister of Labour, and Minister of Native Affairs.

Hon. J. McKenzie, Minister of Lands, Minister of Agriculture, Commissioner of Forests, and Minister in Charge of Advances to Settlers Office.

Hon. A. J. Cadman, Minister for Railways and Minister of Mines.

Hon. J. Carroll, Commissioner of Stamp Duties, Acting Colonial Secretary, and Member of Executive Council representing the Native Race.

Hon. W. C. Walker, Minister of Immigration, Minister of Education, and Minister in Charge of Hospitals and Charitable Aid.

Hon. W. Hall-Jones, Minister for Public Works, Minister of Marine, and Minister in Charge of Printing Office.

Hon. T. Thompson, Minister of Justice, Minister of Defence, and Minister of Industries and Commerce.

Clerk of Executive Council—Alexander James Willis.

THE GENERAL ASSEMBLY.

LEGISLATIVE COUNCIL.

The number of members at present constituting the Legislative Council is forty-five. The number cannot be less than ten, but is otherwise unlimited. Prior to 1891 Councillors summoned by the Governor held their appointments for life; but on the 17th of September of that year an Act was passed giving the Council power to elect its own Speaker for a period of five years, and making future appointments to the Council tenable for seven years only, to be reckoned from the date of the writ of summons of the Councillor's appointment, though every such Councillor may be reappointed. The qualifications are that the person to be appointed be of the full age of twenty-one years, and a subject of Her Majesty, either natural-born or naturalised by or under any Act of the Imperial Parliament or by or under any Act of the General Assembly of New Zealand. All contractors to the public service to an amount of over £50 and Civil servants of the colony are ineligible as Councillors. Payment of

Councillors is at the rate of £150 a year, payable monthly. Actual travelling-expenses to and from Wellington are also allowed. A deduction of £1 5s. per sitting day is made in case of an absence, except through illness or other unavoidable cause, exceeding five sitting days in any one session. Under "The Legislative Council Act, 1891," a seat is vacated by any member of the Council: (1.) If he takes any oath or makes any declaration or acknowledgment of allegiance, obedience, or adherence to any foreign Prince or Power; or (2), if he does, or concurs in, or adopts any act whereby he may become a subject or citizen of any foreign State or Power, or is entitled to the rights, privileges, or immunities of a subject of any foreign State or Power; or (3), if he is a bankrupt, or compounds with his creditors under any Act for the time being in force; or (4), if he is a public defaulter, or is attainted of treason, or is convicted of felony or any infamous crime; or (5), if he resigns his seat by writing under his hand addressed to and accepted by the Governor; or (6), if for more than one whole session of the General Assembly he fails, without permission of the Governor notified to the Council, to give his attendance in the Council. By the Standing Orders of the Council, the presence of one-fourth of the members of the Council, exclusive of those who have leave of absence, is necessary to constitute a meeting for the exercise of its powers. This rule, however, may be altered from time to time by the Council. The ordinary sitting-days are Tuesdays, Wednesdays, Thursdays, and Fridays, from 2.30 p.m. to 5 p.m., resuming again at 7.30 when necessary.

ROLL OF MEMBERS OF THE HONOURABLE THE LEGISLATIVE COUNCIL OF NEW ZEALAND, APRIL, 1899.

Speaker—The Hon. HENRY JOHN MILLER.

Chairman of Committees—The Hon. WILLIAM DOUGLAS HALL BAILLIE.

Name.	Provincial District.	Date of Appointment.
Acland, the Hon. John Barton Arundel	Canterbury	8 July, 1865.
Arkwright, the Hon. Francis	Wellington	13 December, 1895.
Baillie, the Hon. William Douglas Hall	Marlborough	8 March, 1861.
Barnicoat, the Hon. John Wallis	Nelson	14 May, 1883.
Bolt, the Hon. William Mouat	Otago	15 October, 1892.
Bonar, the Hon. James Alexander	Westland	27 June, 1868.
Bowen, the Hon. Charles Christopher	Canterbury	20 January, 1891.
Feldwick, the Hon. Henry	Otago	15 October, 1892.
Grace, the Hon. Morgan Stanislaus, C.M.G.	Wellington	13 May, 1870.
Harris, the Hon. Benjamin	Auckland	3 February, 1897.
Holmes, the Hon. Mathew	Otago	19 June, 1866.
Jenkinson, the Hon. John Edward	Canterbury	6 June, 1893.
Jennings, the Hon. William Thomas	Auckland	15 October, 1892.
Johnston, the Hon. Charles John	Wellington	20 January, 1891.
Jones, the Hon. George	Otago	13 December, 1895.
Kelly, the Hon. Thomas	Taranaki	15 October, 1892.
Kelly, the Hon. William	Auckland	3 February, 1897.
Kenny, the Hon. Courtney William Aylmer Thomas	Marlborough	15 May, 1885.
Kerr, the Hon. James	Westland	15 October, 1892.

ROLL OF MEMBERS OF THE LEGISLATIVE COUNCIL—*continued.*

Name.	Provincial District.	Date of Appointment.
McCullough, the Hon. William.. ..	Auckland ..	15 October, 1892.
MacGregor, the Hon. John	Otago ..	15 October, 1892.
McLean, the Hon. George	Otago ..	19 December, 1881.
Miller, the Hon. Henry John (Speaker) ..	Otago ..	8 July, 1865.
Montgomery, the Hon. William.. ..	Canterbury ..	15 October, 1892.
Morris, the Hon. George Bentham ..	Auckland ..	15 May, 1885.
Oliver, the Hon. Richard	Otago ..	10 November, 1881.
Ormond, the Hon. John Davies ..	Hawke's Bay	20 January, 1891.
Peacock, the Hon. John Thomas ..	Canterbury ..	9 October, 1877.
Pinkerton, the Hon. David	Otago ..	3 February, 1897.
Reeves, the Hon. Richard Harman Jeffares	Nelson ..	13 December, 1895.
Richardson, the Hon. Edward, C.M.G. ..	Wellington ..	15 October, 1892.
Rigg, the Hon. John	Wellington ..	6 June, 1893.
Scotland, the Hon. Henry	Taranaki ..	24 February, 1868.
Shrimski, the Hon. Samuel Edward ..	Otago ..	15 May, 1885.
Smith, the Hon. Alfred Lee	Otago ..	18 June, 1898.
Smith, the Hon. William Cowper ..	Hawke's Bay	13 December. 1895.
Stevens, the Hon. Edward Cephas John..	Canterbury ..	7 March, 1882.
Swanson, the Hon. William	Auckland ..	15 May, 1885.
Taiaroa, the Hon. Hori Kerei	Otago ..	15 May, 1885.
Tomoana, the Hon. Henare	Hawke's Bay	24 June, 1898.
Twomey, the Hon. Jeremiah Matthew ..	Otago ..	18 June, 1898.
Walker, the Hon. Lancelot	Canterbury ..	15 May, 1885.
Walker, the Hon. William Campbell ..	Canterbury ..	15 October, 1892.
Whitmore, the Hon. Sir George Stoddart, K.C.M.G.	Hawke's Bay	31 August, 1863.
Williams, the Hon. Henry	Auckland ..	7 March, 1882.

Clerk of Parliaments, Clerk of the Legislative Council, and Examiner of Standing Orders upon Private Bills—Leonard Stowe.

Clerk-Assistant—Arthur Thomas Bothamley.

Second Clerk-Assistant—George Moore.

Interpreter—Henry S. Hadfield.

HOUSE OF REPRESENTATIVES.

The number of members constituting the House of Representatives is seventy-four—seventy Europeans and four Maoris. This number was fixed by the Act of 1887, which came for the first time into practical operation at the general election of 1890. Previously (from 1881) the House consisted of ninety-five members—ninety-one Europeans and four Maoris. The North Island returns thirty-four European members, and the Middle Island thirty-six. The Cities of Auckland, Wellington, Christchurch, and Dunedin return each three members, and all other electoral districts one each. The elections are triennial, except in the case of a dissolution by the Governor. Every registered elector, being of the male sex, and free from any of the disqualifications mentioned in section 8 of "The Electoral Act, 1893," is eligible for membership. All contractors to the public service of New Zealand to whom any public money above the sum of £50 is payable, directly or indirectly, in any one financial year, as well as the Civil servants of the colony, are incapable of being elected as, or of sitting or voting as, members. The payment made to members of the House of Representatives is £20 per month, amounting to £240 per annum. £2 for every sitting-day exceeding five is deducted on account of absence during session not due to sickness or other unavoidable cause. Travelling-expenses to and from Wellington are also allowed. This scale of payment came into force on the 1st January, 1893, under the provisions of "The Payment of Members Act, 1892." Twenty members, inclusive of the Speaker, constitute a quorum. Unless otherwise ordered, the sitting-days of the House are Tuesdays, Wednesdays, Thursdays, and Fridays, from 2.30 p.m. to 5.30 p.m., resuming at 7.30 p.m. Order of admission to the Speaker's Gallery is by ticket obtained from the Speaker. The Strangers' Gallery is open free to the public.

ROLL OF MEMBERS OF THE HOUSE OF REPRESENTATIVES, APRIL, 1899.

Speaker—The Hon. Sir George Maurice O'Rorke, Kt.
Chairman of Committees—Arthur Robert Guinness.

Name.	Electoral District.	Date of Notification of Return of Writ.
For European Electorates.		
Allen, Edmund Giblett	Waikouaiti	21 December, 1896.
Allen, James	Bruce	"
Bollard, John	Eden	"
Brown, Henry	Taranaki	"
Buchanan, Walter Clarke	Wairarapa	"
Cadman, Hon. Alfred Jerome	Ohinemuri	"
Carncross, Walter Charles Frederick	Taieri	"
Carroll, Hon. James	Waiapu	"
Carson, Gilbert	Wanganui	"
Crowther, William	City of Auckland	"
Duncan, Thomas Young	Oamaru	"
Duthie, John	City of Wellington	12 March, 1898.
Field, Henry Augustus	Otaki	21 December, 1896.
Fisher, George	City of Wellington	"
Flatman, Frederick Robert	Geraldine	"
Fraser, William	Wakatipu	"
Gilfedder, Michael	Wallace	"
Graham, John	City of Nelson	"
Guinness, Arthur Robert	Grey	"
Hall-Jones, Hon. William	Timaru	"
Herries, William Herbert	Bay of Plenty	"
Hogg, Alexander Wilson	Masterton	"
Holland, James Job	City of Auckland	"
Houston, Robert Morrow	Bay of Islands	"
Hunter, George	Waipawa	"
Hutcheson, John	City of Wellington	"
Hutchison, George	Patea	"
Joyce, John	Lyttelton	"
Kelly, James Whyte	Invercargill	"
Lang, Frederic William	Waikato	"
Lawry, Frank	Parnell	"
Lethbridge, Frank Yates	Rangitikei	"
Lewis, Charles	City of Christchurch	"
McGowan, James	Thames	"

ROLL OF MEMBERS OF THE HOUSE OF REPRESENTATIVES—*continued.*

Name.	Electoral District.	Date of Notification of Return of Writ.
McGuire, Felix	Hawera	21 December, 1896.
McKenzie, Hon. John	Waihemo ..	„
Mackenzie, Mackay John Scobie ..	City of Dunedin ..	„
McKenzie, Roderick	Motueka	„
McLean, Robert Donald Douglas ..	Napier	„
McNab, Robert	Mataura	3 June, 1898.
Massey, William Ferguson ..	Franklin	21 December, 1896.
Meredith, Richard	Ashley	„
Millar, John Andrew	City of Dunedin ..	„
Mills, Charles Houghton.. ..	Wairau	„
Monk, Richard	Waitemata ..	„
Montgomery, William Hugh ..	Ellesmere ..	„
Moore, Richard	Kaiapoi	„
Morrison, Arthur	Caversham ..	„
O'Meara, John	Pahiatua ..	„
O'Regan, Patrick Joseph.. ..	Buller	„
O'Rorke, Hon. Sir George Maurice, Knt. Bach.	Manukau ..	„
Pirani, Frederick	Palmerston ..	„
Rawlins, Charles Champion ..	Tuapeka	7 November, 1898.
Rolleston, Hon. William	Riccarton ..	21 December, 1896.
Russell, William Russell ..	Hawke's Bay ..	„
Seddon, Rt. Hon. Richard John, P.C.	Westland ..	„
Sligo, Alexander	City of Dunedin ..	18 October, 1897.
Smith, George John	City of Christchurch	21 December, 1896.
Stevens, John	Manawatu ..	„
Steward, Hon. William Jukes ..	Waitaki	„
Symes, Walter	Egmont	„
Tanner, William Wilcox.. ..	Avon	„
Taylor, Thomas Edward	City of Christchurch	„
Thompson, Robert	Marsden	„
Thompson, Hon. Thomas ..	City of Auckland ..	„
Thomson, James William ..	Clutha	„
Ward, Hon. Joseph George ..	Awarua	13 August, 1897.
Wason, John Cathcart	Selwyn	21 December, 1896.
Wilson, Charles	Suburbs of Well'gton	28 April, 1897.
Wright, Edward George	Ashburton ..	21 December, 1896.
For Maori Electorates.		
Heke, Hone	Northern Maori ..	14 January, 1897.
Kaihau, Henare	Western Maori ..	„
Parata, Tame	Southern Maori ..	„
Pere, Wi	Eastern Maori ..	„

Clerk of House of Representatives—H. Otterson.
Clerk-Assistant—A. J. Rutherfurd.
Second Clerk-Assistant—A. F. Lowe.
Sergeant-at-Arms—W. Fraser.
Reader and Clerk of Bills and Papers—E. W. Kane.
Chief *Hansard* Reporter—J. Grattan Grey.
Interpreters—L. M. Grace, W. E. Goff.
Clerk of Writs—H. Pollen.
Deputy Clerk of Writs— ————.
Acting Librarian—H. L. James, B.A.

OFFICIAL LIST.

[4th April, 1899.]

PREMIER'S OFFICE.

Premier—Rt. Hon. R. J. Seddon, P.C.
Secretary to Cabinet—A. J. Willis

COLONIAL SECRETARY'S DEPARTMENT.

Chief Office.

Colonial Secretary—Hon. James Carroll (acting)
Under-Secretary—Hugh Pollen
Chief Clerk—
Clerks—R. F. Lynch, J. F. Andrews, L. W. Loveday
Officer in Charge of Government Buildings—W. H. Hennah

Audit Office.

Controller and Auditor-General—J. K. Warburton.
Assistant Controller and Auditor—J. C. Gavin
Chief Clerk—L. C. Roskruge
Clerks—W. Dodd, H. S. Pollen, W. G. Holdsworth, E. J. A. Stevenson, C. M. Georgeson, J. Skerrett
Cadet—J. H. Fowler
Extra Clerks—D. C. Innes, J. Swift, A. E. Bybles, J. Ward, A. A. Bethune, B. A. Meek, C. E. Briggs
Audit Officer, Agent-General's Office, London—C. F. W. Palliser
Audit Inspectors—P. P. Webb, A. H. Maclean, J. King, A. W. Eames, E. T. Greville, G. H. I. Easton, C. P. Johnson, J. T. Dumbell, W. H. Carlyle, H. A. Lamb

Registrar-General's Office.

Registrar-General—E. J. Von Dadelszen
Chief Clerk and Deputy Registrar-General—G. Drury
Clerks—F. H. Machattie, S. Coffey, W. W. Cook.
Cadet—Ben Keys

Registrars of Births, Deaths, and Marriages.

Four Chief Towns.

Auckland—E. H. Lyons
Wellington—F. W. Mansfield
Christchurch—J. W. Parkerson
Dunedin—W. J. Hall

Printing and Stationery Department.

Government Printer, Stationery Office Manager, and Controller of Stamp Printing—John Mackay
Superintending Overseer—J. Burns
Chief Clerk and Accountant—B. B. Allen
Clerk and Computer—N. B. K. Manley
Clerks—F. Barraud, J. W. Hall, R. Watts, A. Stace, A. Williams
Cadet—R. A. Gray
Hansard Supervisor—M. F. Marks
Overseers—J. J. Gamble, B. Wilson
Sub-overseer, Jobbing-room—G. Tattle
Overseer, Machine-room—
Overseer, Binding Branch—W. Franklin
Sub-overseer, Binding Branch—G. H. Broad
Night Foreman—J. F. Rogers
Stamp Printer—H. Hume
Stereotyper and Electrotyper—W. J. Kirk
Readers—W. Fuller, H. S. Mountier
Forewoman, Binding Branch—Miss O'Malley
Engineer—T. R. Barrer

COLONIAL TREASURER'S DEPARTMENT.

Chief Office.

Colonial Treasurer—Rt. Hon. R. J. Seddon, P.C.
Secretary to the Treasury, Receiver-General, Paymaster-General, and Registrar of Consols—James B. Heywood
Accountant to the Treasury—Robert J. Collins
Cashier—C. E. Chittey
Corresponding Clerk—H. Blundell
Clerks—C. Meacham, R. B. Vincent, W. E. Cooper, J. Driscoll, E. L. Mowbray, A. O. Gibbes, J. Holmes, H. N. W. Church, J. Eman Smith, T. H. Burnett, J. Radcliffe, A. J. Morgan, T. J. Davis, F. H. Tuckey, W. Wilson
Cadets—G. A. Fraser, E. J. Fitzgibbon
Cadettes—H. L. Hansen, E. Fisher
Officer for Payment of Imperial Pensions at Auckland—B. J. Daveney

Friendly Societies' and Trades Unions' Registry Office; also Office of the Registrar under the Industrial Conciliation and Arbitration Act.

Registrar—E. Mason
Revising Barrister for Friendly Societies and Trades Unions—L. G. Reid
Clerk—C. T. Benzoni

Old-age Pensions Office.

Registrar—E. Mason
Deputy Registrars—
  Auckland—John King, Registrar of Electors
  Wellington—F. W. Mansfield, Registrar of Births. &c.
  Christchurch—L. C. Williams, Registrar of Electors
  Dunedin—James Taylor, Deputy Registrar of Births, &c.
  (In all other Pension Districts Clerks of the Magistrates' Courts are the Deputy Registrars)

LAND AND INCOME TAX DEPARTMENT.

Commissioner—John McGowan
Deputy Commissioner—G. F. C. Campbell
Chief Clerk—F. J. M. D. Walmsley
Accountant—P. Heyes
Clerks—A. J. McGowan, H. Nancarrow, J. M. King, W. M. Tyers, G. W. Jänisch, J. W. Black, D. R. Purdie, C. V. Kreeft, A. F. Oswin, D. G. Clark, J. Stevenson, J. R. Smyth, R. Hepworth
Cadets—E. Panting, C. E. J. Dowland, C. J. Lovatt

DEPARTMENT OF JUSTICE.

Head Office.

Minister of Justice—Hon. T. Thompson
Under-Secretary—F. Waldegrave
Translator—G. H. Davies
Clerks—C. B. Jordan, C. E. Matthews, W. D. Anderson, G. F. Dixon

Crown Law Office.

Attorney-General—(vacant)
Solicitor-General—W. S. Reid
Assistant Law Officer—L. G. Reid
Law Draftsman—F. Fitchett, M.A., LL.D.
Clerk—E. Y. Redward

Patent Office.

Registrar of Patents, Designs, and Trademarks—F. Waldegrave
Deputy Registrar—J. C. Lewis
Clerks—M. J. Organ, Mary Eyre

Judicial.

Supreme Court Judges.

Chief Justice—
  Wellington—Sir J. Prendergast, Knt.
Puisne Judges—
  Wellington—W. B. Edwards
  Auckland—E. T. Conolly
  Christchurch—J. E Denniston
  Dunedin—J. S. Williams (on leave), F. W. Pennefather (Acting)

District Court Judges.

Wairarapa, Wanganui, New Plymouth, Hawera, and Palmerston North—C. C. Kettle
Nelson—H. W. Robinson
Ashburton, Timaru, Oamaru, Queenstown, Naseby, Lawrence, Invercargill, Hokitika, Greymouth, Westport, Reefton, and Kumara—C. D. R. Ward

Registrars of the Supreme Court.

Auckland—H. C. Brewer
New Plymouth—R. L. Stanford
Wanganui—C. C. Kettle
Napier—A. Turnbull
Gisborne—W. A. Barton
Wellington—D. G. A. Cooper
Nelson—H. W. Robinson
Blenheim—J. Allen
Christchurch—A. R. Bloxam
Hokitika—A. H. King
Dunedin—C. McK. Gordon
Invercargill—F. G. Morgan

Sheriffs.

Auckland—H. C. Brewer
Taranaki—A. H. Holmes
Hawke's Bay—A. Turnbull
Poverty Bay—W. A. Barton
Wellington—D. G. A. Cooper
Wairarapa—W. R Haselden
Wanganui and Rangitikei—A. D. Thomson
Nelson—W. Heaps
Westland North—E. C. Kelling
Central Westland—H. Lucas
Marlborough—J. B. Stoney
Canterbury—A. R. Bloxam
Timaru—C. A. Wray
Westland—A. H. King
Otago—C. McK. Gordon
Southland—J. R. Colyer

Crown Solicitors.

Auckland—Hon. J A. Tole
New Plymouth—A. Standish
Gisborne—J. W. Nolan
Napier—A. J. Cotterill
Wellington—H. Gully
Wanganui—S. T. Fitzherbert
Nelson—C. Y. Fell
Blenheim—R. McCallum
Christchurch—T. W. Stringer
Timaru—J. W. White
Hokitika—
Dunedin—J. F. M. Fraser
Invercargill—T. M. Macdonald
Oamaru—A. G. Creagh

Crown Prosecutors (District Courts).

New Plymouth—A. Standish
Hawera—E. L. Barton
Wanganui and Palmerston North—S. T. Fitzherbert
Masterton—A. R. Bunny
Westport and Reefton—C. E. Harden
Hokitika—J. Park
Greymouth—M. Hannan
Timaru—J. W. White
Oamaru—A. G. Creagh
Nelson—C. Y. Fell
Queenstown—Wesley Turton
Invercargill—T. M. Macdonald

Stipendiary Magistrates.

Auckland—H. W. Brabant
Pokeno, Waikato, &c.—T. Jackson
Onehunga, &c.—T. Hutchison*
Russell, &c.—J. S. Clendon
Tauranga, &c.—J. M. Roberts*
Thames, &c.—R. S. Bush*
Gisborne, &c.—J. Booth
New Plymouth—R. L. Stanford
Hawera, &c.—H. W. Northcroft
Wanganui, &c.—C. C. Kettle
Palmerston North, &c.—A. Greenfield
Wellington, &c.—H. Eyre Kenny
Wairarapa, &c.—W. R. Haselden
Napier, &c.—A. Turnbull
Nelson—H. W. Robinson*
Motueka, Collingwood, &c. — Wilson Heaps*
Blenheim, &c.—J. Allen*
Christchurch, &c.—R. Beetham
Kaiapoi, &c.—H. W. Bishop
Timaru, &c.—C. A. Wray
Greymouth, Westport, &c.—H. A. Stratford*
Hokitika, &c.—D. Macfarlane*
Dunedin, &c.—E. H. Carew* and C. C. Graham
Oamaru, &c.—J. Keddell*
Milton, &c.—R. S. Hawkins*
Clyde, &c.— S. E. McCarthy.*
Naseby—S. M. Dalgleish*
Invercargill, &c.—J. W. Poynton*
Chatham Islands—R. S. Florance

Official Assignees in Bankruptcy.

Auckland—J. Lawson, J.P.
Wellington—J. Ashcroft, J.P.
Christchurch—G. L. Greenwood
Dunedin—C. C. Graham, S.M.

Clerks of District and Magistrates' Courts.

New Plymouth—A. H. Holmes
Hawera—A. Trimble
Wanganui—A. D. Thomson
Palmerston North—W. Matravers
Masterton—E. Rawson
Nelson—C. H. Webb-Bowen
Hokitika—C. A. Barton
Kumara—J. McEnnis
Greymouth—B. Harper
Westport—E. C. Kelling
Reefton—H. Lucas
Timaru—T. Howley
Ashburton—T. W. Tayler
Oamaru—H. H. G. Ralfe
Invercargill—J. R. Colyer
Queenstown—H. N Firth
Lawrence—A. M. Eyes
Naseby—John Terry

Receivers of Gold Revenue, Mining Registrars, and Clerks of Wardens' and Magistrates' Courts.

Thames—J. Jordan
Coromandel—T. M. Lawler
Paeroa—T. A. Moresby
Te Aroha—D. Banks
Tauranga—J. Thomson
Whangarei—G. M. Robertshaw
Havelock and Cullensville (Marlborough) —H. McArdle
Nelson—C. H. Webb-Bowen
Motueka—H. E. Gilbert
Collingwood—J. T. Foley
Westport—E. C. Kelling
Charleston—T. R. W. Philpotts
Reefton—H. Lucas
Ahaura—A. Askenbeck
Greymouth—B. Harper
Kumara—J. McEnnis
Hokitika—C. A. Barton
Naseby, &c.—John Terry
Wyndham—D. Bogue

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* Are also Wardens of Goldfields.

Clyde, Blacks, and Alexandra—F. T. D. Jeffrey
Cromwell—J. Fleming
Queenstown and Arrowtown — H. N. Firth
Lawrence—A. M. Eyes
Riverton—A. G. Ashby

Clerks of Magistrates' Courts.

Auckland—F. J. Burgess
Gisborne—W. A. Barton
Hamilton—T. Kirk
Napier—R. B. Mathias
Hastings—P. Skerrett
Marton, &c.—F. M. Deighton
Wellington—W. P. James
Blenheim—J. B. Stoney
Christchurch—W. Martin
Lyttelton—W. Shanaghan
Kaiapoi—M. Lynskey
Dunedin—W. G. P. O'Callaghan

NATIVE LAND COURT.

Chief Judge—G. B. Davy
Judges — A. Mackay, D. Scannell, R. Ward, H. W. Brabant, W. J. Butler, H. F. Edger, W. G. Mair, H. D. Johnson, J. M. Batham
Registrars — Auckland, J. W. Browne; Gisborne, J. Brooking; Wellington, R. C. Sim

Commissioners of the Native Land Court.

R. S. Bush, J. Booth, A. Turnbull, J. S. Clendon, T. Jackson, C. C. Kettle, J. M. Roberts, W. Stuart, H. W. Bishop, E. H. Carew, H. E. Kenny, R. L. Stanford, T. Hutchison, H. W. Robinson, R. S. Florance: Sub-commissioners—J. Brooking, W. A. Thom
Government Native Agent, Otorohanga —G. T. Wilkinson

VALIDATION COURT.

Chief Judge—G. B. Davy
Judges—The Judges of the Native Land Court
Registrars—The Registrars of the Native Land Court

CORONERS.

Coroners — Auckland, T. M. Philson, H. W. Brabant, T. Hutchison, E. Baker; Akaroa, G. H. Saxton; Blenheim, J. Allen; Christchurch, R. Beetham and H. W. Bishop; Clyde, S. E. McCarthy; Collingwood, E. Davidson; Coromandel, A. R. H. Swindley; Dunedin, E. H. Carew; Foxton, E. S. Thynne; Gisborne, J. Booth; Greymouth, H. A. Stratford; Huntly, T. H. White; Hawera, C. E. Major; Hokitika, D. Macfarlane and R. W. Wade; Invercargill, J. W. Poynton; Lawrence, R. S. Hawkins; Marton, A. Ross; Masterton, W. R. Haselden; Napier, A. Turnbull; Naseby, S. M. Dalgleish; Nelson, H. W. Robinson, and L. G. Boor; New Plymouth, R. L. Stanford; Oamaru, J. Keddell; Opotiki, S. Bates; Otahuhu, S. Luke; Otaki, W. H. Simcox; Paeroa, W. Forrest; Palmerston North, A. Greenfield and G. M. Snelson; Pokeno, T. Jackson; Port Albert, J. Shepherd; Pahi, J. B. Ariell; Queenstown, L. Hotop and S. E. McCarthy; Raglan, W. H. Wallis; Stratford, H. J. C. Coutts; Tauranga, A. C. H. Tovey and J. M. Roberts; Te Awamutu, T. Gresham; Timaru, C. A. Wray; Te Kopuru, T. Webb; Thames, A. Bruce and R. S. Bush; Waimate, E. M. Williams; Waipawa, S. Johnson; Wellington, J. Ashcroft; Wanganui, H. W. Northcroft and C. C. Kettle; Whangarei, J. Bell; Woodville, E. J. Gothard; Chatham Islands, R. S. Florance

NEW ZEALAND POLICE FORCE.

Head Office.

Commissioner—John Bennett Tunbridge
Clerks—John Evans, John Tasker, William John Mahoney
Cadet—Walter Gollan

Police Department.

Inspectors—Thomas Broham, Peter Pender, William Stone Pardy, Francis McGovern, John Cullen, John Wybrant Ellison, Robert James Gillies
Sub-Inspectors—Terence O'Brien, Ewen Macdonell, Nicholas Kiely, Edward Wilson

PRISONS DEPARTMENT.

Inspector—Lieut.-Colonel Arthur Hume, N.Z.M.
Clerk—T. E. Richardson
Gaolers — Auckland, George Sinclair Reston; Dunedin, Samuel Charles Phillips; Hokitika, Michael Flannery; Invercargill, John Henry Bratby; Lyttelton, Matthew Michael Cleary; Napier, Francis Edward Severne; New Plymouth, Bartholomew Lloyd O'Brien; Wanganui, Robert T. N. Beasley; Wellington, Patrick Samuel Garvey

DEPARTMENT OF INDUSTRIES AND COMMERCE.

Minister—Hon. T. Thompson
Clerk—A. M. Smith

DEPARTMENT OF LABOUR

Minister of Labour—Rt. Hon. R. J. Seddon, P.C.
Secretary for Labour and Chief Inspector of Factories—E. Tregear
Chief Clerk—James Mackay
Clerk—F. W. T. Rowley
Cadet—F. A. De la Mare
Shorthand Writer and Typist—J. W. Collins

INSPECTORS OF FACTORIES.

North Island — J. Mackay, J. Shanaghan, H. Ferguson, L. D. Browett, W. J. Blake, Margaret Hawthorne, and 71 local Inspectors
South Island—J. Mackay, J. Shanaghan, J. Lomas, H. Maxwell, W. J. McKeown, Margaret Hawthorne, and 68 local Inspectors

(There are also 200 Bureau Agents in different parts of the colony.)

PUBLIC WORKS DEPARTMENT.

HEAD OFFICE.

Minister for Public Works—Hon. W. Hall-Jones
Under-Secretary—H. J. H. Blow
Engineer-in-Chief—W. H. Hales
Superintending Engineer—P. S. Hay, M.A., M.Inst.C.E.
Chief Clerk—W. D. Dumbell
Accountant—G. J. Clapham
Land-purchase Officer—H. Thompson
Record Clerk—H. W. H. Millais
Clerks—C. T. Rushbrook, A. S. Lewis, A. Biddell, E. McCarthy, E. Bold, A. R. Stone, E. Horneman, H. R. Rae, N. Jacobs, P. S. Waldie, F. E. Banks, A. H. Kimbell, A. L. Goldfinch, L. White
Chief Draughtsman—W. G. Rutherford
Architect—J. Campbell
Draughtsmen—T. Perham, E. Jackson, A. Koch, W. Withers, E. McC. Blake, W. G. Swan, J. H. Price, G. Bjornstad, W. A. Smith, C. A. Lawrence, L. L. Richards
Engineering Cadet—J. J. Wilson
Head Storekeeper—John Young

DISTRICT OFFICES.

District Engineers—Auckland, C. R. Vickerman; Dunedin, E. R. Ussher, M.Inst.C.E.
Resident Engineers—Hunterville, G. L. Cook, M.Inst.C.E.; Westport, R. A. Young, Assoc. M.I.C.E.; Greymouth, J. Thomson, B.E.; Jackson's, J. A. Wilson; Hyde, W. A. Shain. In charge of North Island Main Trunk Railway survey, R. W. Holmes
Assistant Engineers—A. C. Koch, J. D. Louch, F. M. Hewson, D. Ross, J. J. Hay, M.A., W. H. Gavin, T. Roberts, J. H. Dobson, J. S. Stewart, S. J. Harding, F. H. Geisow, C. E. Armstrong, J. H. Lewis, H. Dickson, J. W. E. McEnnis, A. Jack, F. W. Furkert, J. Meenan
Engineering Cadets—W. A. Jeff, W. Sherratt, C. J. McKenzie, F. P. Bartley
Clerks, Draughtsmen, &c.—W. Black, C. Wood, P. F. M. Burrows, L. F. Tegnér, W. A. Cumming, J. H. Denton, W. H. Hislop, E. Waddell, G. Glenister, J. C. Fulton, T. Douglas, J. B. Borton, C. Scholfield, H F. Doogan, C. E. Crawford, L. P. Cabot, W. E. Butler, W. E. Fitzgerald, L. M. Shera, A. W. Hamann

RAILWAYS DEPARTMENT.

Minister for Railways—Hon. A. J. Cadman
General Manager—T. Ronayne
Assistant General Manager—C. Hudson
Chief Clerk—T. W. Waite
Clerks—R. W. McVilly, E. J. Andrews, B. M. Wilson, W. S. Ridler, F. S. Pope, W. Johnston, J. E. Widdop, W. H. Gifford, A. J. Will, W. H. Warren, S. S. Millington, D. Sinclair
Audit Inspectors—H. Baxter, D. Munro, C. L. Russell
Railway Accountant—A. C. Fife
Clerks—H. Davidson, J. H. Davies, G. G. Wilson, M. C. Rowe, S. P. Curtis, J. McLean, E. Davy, A. Morris, E. P. Brogan, C. Batten, W. B. Fisher, J. Firth, E. J. Fleming, H. H. Leopard, R. J. Loe, F. W. Lash, A. H. Hunt, W. Bourke, W. H. Hales, W. E. Ahern, F. K. Porteous, T. A. O'Connor, H. H. Bell

Stores Manager—G. Felton

Clerks—A. M. Heaton, F. J. Dawes, G. H. Norie, S. Alpe, H. W. Barbor, R. H. Stephens, E. J. Maguiness, H. R. Carey, L. B. Archibald, J. M. Skinner, G. B. Cope, J. R. Robertson

District Managers—Kaihu, T. H. Barstow; Auckland, A. Grant; Wanganui, H. Buxton; Napier and Wellington, T. E. Donne; Greymouth, C. A. Piper; Picton, H. B. Dobbie; Nelson, G. E. Richardson; Christchurch, W. H. Gaw; Dunedin, T. Arthur; Invercargill, S. F. Whitcombe

Stationmasters in charge—Kawakawa, R. B. Peat; Whangarei, A. B. Duncan; Westport, T. Hay-Mackenzie

Chief Engineer for Working Railways—J. H. Lowe, M.Inst.C.E.

Inspecting Engineer—J. Coom, M.Inst. C.E.

Signal Engineer—A. H. Johnson

Railway Land Officer—E. G. H. Mainwaring

Chief Draughtsman—G. A. Troup

Draughtsmen—J. Besant, W. R. B. Bagge, C. T. Jeffreys, A. S. Henderson, H. D. Thomson, W. R. Davidson

Clerks—W. P. Hicks, M. Angus, J. T. Ford, W. A. Mirams, H. Jessup, H. W. Rowden, H. H. Gardner, P. J. McGovern, E. D. Richards, A. N. Longton, D. F. Sullivan

District Engineers—Auckland, C. H. Biss; Wanganui, D. T. McIntosh; Wellington, H. Macandrew; Westport, J. D. Harris; Greymouth, H. St. J. Christophers; Christchurch, James Burnett; Dunedin, F. W. MacLean

Assistant Engineer, Invercargill—A. J. McCredie

Locomotive Superintendent—T. F. Rotheram

Clerks—R. Triggs, R. Aekins, C. G. Edwards, G. G. Haldane, J. Rumgay, W. B. Sinclair, E. L. Forward, C. H. Virtue, N. G. Ward, H. McKeowen, C. M. Hill, E. J. Guthrie, G. H. Reynolds, N. P. G. Ewart, C. L. Pettit

Chief Draughtsman—G. A. Pearson

Draughtsmen—R. Pye-Smith, E. E. Gillon, W. A. Palmer

Locomotive Engineers—Auckland, A. V. Macdonald; Wanganui-Napier, H. H. Jackson; Wellington, T. A. Peterkin; Hurunui-Bluff, A. L. Beattie; Relieving, J. H. Fox

BOARD OF APPEAL.

North Island.

H. Eyre Kenny, Stipendiary Magistrate, Chairman, appointed by the Governor.

H. Davidson, Railway Accountant's Office, elected.

T. Wilson, Fireman, elected.

Middle Island.

C. D. R. Ward, District Judge, Chairman, appointed by the Governor.

T. W. Brebner, Stationmaster, elected.

P. E. Nolan, Signalman, elected.

POST AND TELEGRAPH DEPARTMENT.

GENERAL POST OFFICE.

Postmaster-General and Commissioner of Electric Telegraphs—Rt. Hon. R. J. Seddon, P.C.

Secretary—W. Gray

Superintendent of Electric Lines—J. K. Logan

Assistant Secretary and Inspector—T. Rose

Controller of Money-orders and Savings-banks, and Accountant—G. Gray

Chief Clerk—D. Robertson

Clerks—W. R. Morris, E. V. Senn, F. V. Waters, H. Plimmer, J. C. Williamson, W. Crow, W. Isbister, L. Ledger, V. J. Brogan, W. Callaghan, G. W. Moorhouse, W. Chegwidden, H. S. B. Miller, H. Huggins, G. V. Hudson, F. Perrin, H. D. Grocott, J. Brennan, H. Cornwall, R. J. Thompson, R. E. Hayes, J. J. Esson, D. A. Jenkins, E. Fitzsimons, H. N. McLeod, J. C. Redmond, C. B. Harton, H. A. Smith, W. J. Drake, J. D. Avery, A. H. Tucker, J. G. Roache, J. Coyle, F. W. Faber, W. H. Carter, P. Tyrrell, A. T. Markmann, P. Kelleher, W. A. Tanner, G. H. Harris, H. C. Hickson, C. Dempsey, P. D. Hoskins, H. C. Milne, J. G. Howard, W. R. Wakelin, C. J. Panting, F. Stewart, T. E. Diamond, F. W. Furby, R. A. Keenan, J. B. Jordan, N. M. Chesney, F. G. A. Eagles, E. Bermingham, C. Bermingham, S. Brock, E. Harris, B. Kenny, V. Johnston, M. A. McLeod, C. Smith, M. A. Asquith

Electrician—W. C. Smythe

Assistant Electrician—T. Buckley

Mechanician—R. Heinitz

Assistant Mechanician—F. Palmer
Storekeeper—J. Black
Assistant Storekeeper—C. B. Mann
Clerks in Store—C. Nicholls, T. Palmer
Cadets in Store—F. H. Guinness, M. McGilvray
Circulation Branch (Post Office)—J. Hoggard, Chief Clerk

Inspectors of Telegraphs.

Auckland—E. H. Bold
Christchurch—W. G. Meddings
Dunedin—J. Orchiston

Assistant Inspectors of Post Offices.

D. Cumming, C. J. A. H. Tipping, S. P. Stevens

Sub-Inspector of Telegraphs.

Nelson—J. W. Gannaway

Chief Postmasters.

Auckland—S. B. Biss
*Thames—J. E. Coney
*Gisborne—G. W. Sampson
Napier—S. J. Jago
*New Plymouth—F. D. Holdsworth
*Wanganui—J. F. McBeth
*Blenheim—J. Bull
*Nelson—H. Calders
*Westport—J. H. Sheath
*Greymouth—C. J. Berry
*Hokitika—W. St. G. Douglas
Christchurch—R. Kirton
*Timaru—J. A. Hutton
*Oamaru—W. W. Beswick
Dunedin—E. Cook
*Invercargill—J. W. Wilkin

Officers in Charge of Telegraph Offices.

Auckland—W. S. Furby
Napier—H. W. Harrington
Wellington—C. C. Robertson
Christchurch—J. W. Mason
Dunedin—J. G. Ballard

Board of Appeal.

J. McGowan, Commissioner of Taxes, Chairman (by Act).
J. K. Logan, Superintendent of Electric Lines (by Act).
F. M. Scully, Representing Postal Branch, elected.
W. McNickle, Representing Telegraph Branch, elected.

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* Combined post- and telegraph-offices.

DEPARTMENT OF TRADE AND CUSTOMS.

Commissioner of Trade and Customs—Rt. Hon. R. J. Seddon, P.C.
Secretary and Inspector of Customs and Secretary of Marine—W. T. Glasgow.
Chief Clerk—T. Larchin
Clerks, Customs—F. Oxford, V. R. Meredith, C. H. Manson
Audit—H. W. Brewer, H. Crowther (Writer)

Collectors of Customs.

Auckland—A. Rose
Poverty Bay—E. Pasley
New Plymouth—H. Bedford
Napier—E. R. C. Bowen
Wellington—D. McKellar
Wanganui—A. Elliott
Wairau—W. J. Hawley
Nelson—W. Heaps
Westport—J. Mills
Greymouth—A. McDowell
Hokitika—E. Chilman
Lyttelton and Christchurch—E. Patten
Timaru—A. Hart
Oamaru—J. P. Ridings
Dunedin—C. W. S. Chamberlain
Invercargill and Bluff Harbour—D. Johnston, jun.

Officers in Charge of Ports, and Coastwaiters.

Thames—T. C. Bayldon, Coastwaiter
Russell—H. Stephenson, Coastwaiter
Tauranga—E. Northcroft, Officer in Charge
Whangaroa—A. G. Ratcliffe, Coastwaiter
Whangarei—J. Munro, Coastwaiter
Mongonui—A. D. Clemett, Officer in Charge
Hokianga—G. Martin, Coastwaiter
Kaipara—J. C. Smith, Officer in Charge
Waitara—J. Cameron, Coastwaiter
Foxton—J. B. Imrie, Officer in Charge
Patea—J. W. Glenny, Officer in Charge
Picton—F. J. Robertshaw, Officer in Charge
Chatham Islands—R. S. Florance, Officer in Charge

MARINE DEPARTMENT.

Minister of Marine—Hon. W. Hall-Jones
Secretary—W. T. Glasgow
Chief Clerk—G. Allport
Clerks—J. J. D. Grix, G. Sinclair

Cadet—A. P. Owens
Marine Engineer for the Colony—W. H. Hales
Nautical Adviser and Chief Examiner of Masters and Mates—(vacant)
Examiner of Masters and Mates—Wellington, R. A. Edwin, Com. R.N.
Weather Reporter—R. A. Edwin, Com. R.N.
Examiners of Masters and Mates, Auckland—T. C. Tilly and J. Adamson
Examiner of Masters and Mates, Lyttelton—J. A. H. Marciel
Examiner of Masters and Mates, Dunedin—W. J. Grey
Chief Inspector of Machinery, Principal Engineer Surveyor, and Chief Examiner of Engineers—R. Duncan
Inspectors of Machinery, Engineer Surveyors, and Examiners of Engineers:—Auckland—W. J. Jobson and L. Blackwood; Wellington—H. A. McGregor, P. Carman, and A. McVicar; Christchurch—G. Croll; Dunedin—A. Morrison and H. Wetherilt
Master of s.s. Tutanekai—C. F. Post
Master of s.s. Hinemoa—J. Bollons

INSPECTORS OF SEA FISHERIES.

Russell—H. Stephenson
Whangarei—J. Munro
Wellington—F. Moorhouse
Hokitika—J. Duncan
Bluff—P. McGrath

HARBOURMASTERS.*

Collingwood—F. Stallard
Foxton—A. Seabury
Hokianga—G. Martin
Kaipara—J. Christy Smith
Manukau—J. Neale
Motueka—H. L. Moffatt
Nelson—F. W. Cox
Picton—H. B. Dobbie
Port Robinson—J. Sinclair
Russell—H. Stephenson
Waitapu—S. G. Robinson

STAMP DEPARTMENT.

Commissioner of Stamp Duties—Hon. Jas. Carroll
Secretary for Stamps—C. A. St. G. Hickson
Chief Clerk and Accountant—H. O. Williams
Custodian and Issuer of Stamps—W. H. Shore
Record and Receiving Clerk—J. P. Murphy
Clerk—J. Murray
Chief Stamper—C. Howe
Cadet—W. Wilkes

DEPUTY COMMISSIONERS OF STAMPS.

Auckland—E. Bamford
Gisborne—C. H. W. Dixon
Taranaki—R. L. Stanford
Hawke's Bay—Thos. Hall
Wellington—C. A. St. G. Hickson
Wanganui—J. F. McBeth
Nelson—W. W. de Castro
Marlborough—A. V. Sturtevant
Canterbury—E. Denham
Timaru—J. A. Hutton
Otago—P. C. Corliss
Southland—F. G. Morgan
Westland—A. H. King

LAND TRANSFER DEPARTMENT AND DEEDS REGISTRY.

Registrar-General of Land and Deeds—G. B. Davy
Secretary, Land and Deeds—C. A. St. G. Hickson

DISTRICT LAND REGISTRARS AND REGISTRARS OF DEEDS.

Auckland—E. Bamford
Taranaki—R. L. Stanford
Wellington—Wm. Stuart
Hawke's Bay—Thos. Hall
Gisborne—J. M. Batham
Nelson—H. W. Robinson
Marlborough—J. Allen
Canterbury—G. G. Bridges, District Land Registrar; E. Denham, Registrar of Deeds
Otago—H. Turton
Southland—F. G. Morgan
Westland—A. H. King

EXAMINERS OF TITLES.

Auckland—E. Bamford
Taranaki—R. L. Stanford
Wellington—Wm. Stuart, H. Howorth
Hawke's Bay—Thos. Hall
Gisborne—J. M. Batham
Nelson—H. W. Robinson
Marlborough—Wm. Stuart
Canterbury—G. G. Bridges
Otago—H. Turton
Southland—F. G. Morgan
Westland—A. H. King

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* The more important harbours are controlled by local Boards, not by the Marine Department.

REGISTRAR OF JOINT-STOCK COMPANIES.

C. A. St. G. Hickson

REGISTRARS OF BUILDING SOCIETIES, INDUSTRIAL AND PROVIDENT SOCIETIES, AND ASSISTANT REGISTRARS OF JOINT-STOCK COMPANIES.

Auckland—E. Bamford
Taranaki—R. L. Stanford
Hawke's Bay—Thos. Hall
Wellington—H. O. Williams
Nelson—W. W. de Castro
Marlborough—A. V. Sturtevant
Canterbury—E. Denham
Otago—P. C. Corliss
Southland—F. G. Morgan
Westland—A. H. King
Poverty Bay—C. H. W. Dixon

EDUCATION DEPARTMENT.

Minister of Education (administering also Native schools, industrial schools, and the institution for deaf-mutes)—Hon. W. C. Walker
Secretary for Education and Inspector-General of Schools—George Hogben, M.A.
Assistant Secretary—Sir E. O. Gibbes, Bart.
Clerks—F. K. de Castro, H. B. Kirk, M.A., R. H. Pope, F. L. Severne, E. C. Banks, F. D. Thomson, T. G. Gilbert
Inspector of Native Schools—James H. Pope. Assistant Inspector—H. B. Kirk, M.A.

EDUCATION BOARDS.

Auckland—V. E. Rice, Secretary
Taranaki—(vacant), Secretary
Wanganui—A. A. Browne, Secretary
Wellington—A. Dorset, Secretary
Hawke's Bay—G. T. Fannin, Secretary
Marlborough—J. Smith, Secretary
Nelson—S. Ellis, Secretary
Grey—W. Riemenschneider, Secretary
Westland—A. J. Morton, B.A., Secretary
Canterbury North—H. C. Lane, Secretary
Canterbury South—J. H. Bamfield, Secretary
Otago—P. G. Pryde, Secretary
Southland—J. Neill, Secretary

SCHOOL COMMISSIONERS

(Administrators of Education Reserves).

Auckland—H. N. Garland, Secretary
Taranaki—(vacant), Secretary
Wellington—N. J. Tone, Secretary
Hawke's Bay—E. P. A. Platford, Secretary
Marlborough—J. Smith, Secretary
Nelson—A. T. Jones, Secretary
Westland—A. J. Morton, Secretary
Canterbury—H. H. Pitman, Steward of Reserves
Otago—C. Macandrew, Secretary

INDUSTRIAL SCHOOLS.

Government Schools.

Auckland Industrial School—Miss S. E. Jackson, Manager
Burnham Industrial School (Canterbury)—T. Archey, Manager
Caversham Industrial School (Otago)—G. M. Burlinson, Manager

Private Schools.

St. Mary's Industrial School, Ponsonby—Rev. G. H. Gillan, Manager
St. Joseph's Industrial School, Wellington—Rev. W. J. Lewis, Manager
St. Mary's Industrial School, Nelson—Rev. W. J. Mahoney, Manager
St. Vincent de Paul's Industrial School, Dunedin—Rev. P. Murphy, Manager

INSTITUTION FOR DEAF-MUTES, SUMNER.

Director—G. van Asch
Steward—H. Buttle

LUNATIC ASYLUMS.

Inspector—Duncan MacGregor, M.A., M.B., C.M.*
Deputy Inspector—Mrs. Grace Neill
Medical Superintendent, Auckland Asylum—R. M. Beattie, M.B.
Medical Superintendent, Christchurch Asylum—E. G. Levinge, M.B.
Medical Superintendent, Porirua Asylum—Gray Hassell, M.D.
Medical Superintendent, Wellington Asylum—T. R. King, M.D.
Medical Superintendent, Seacliff Asylum—F. Truby King, M.B.
Superintendent, Hokitika Asylum—H. Gribben; Medical Officer, H. Macandrew, M.B.
Superintendent, Nelson Asylum—J. Morrison; Medical Officer, A. G. Talbot, M.B.
Ashburn Hall, Waikari (private asylum)—Proprietors, Dr. Alexander and Executor of James Hume; Medical Officer, Frank Hay, M.B.

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* Also holds appointment of Inspector of Hospitals and Charitable Institutions.

MINES DEPARTMENT

CHIEF OFFICE.

Minister of Mines—Hon. A. J. Cadman
Under-Secretary for Mines—H. J. H. Eliott
Inspecting Engineer—George Wilson
Chief Clerk—T. H. Hamer
Clerk—H. E. Radcliffe
Analyst—W. Skey
Geologist—Alexander McKay, F.G.S.
Assistant Geologist—W. A. McKay
Draughtsman—C. H. Pierard
Cadet—J. T. Watkins

INSPECTORS OF MINES.

Thames and Auckland Districts—James Coutts; Assistant Inspector, Thomas Ryan; Canterbury, Dunedin, and Southland Districts—J. Hayes; Cadet, H. Paton; West Coast Districts—R. Tennent; Assistant Inspector—A. H. Richards

MINING BUREAU.

Secretary—P. Galvin

MANAGERS OF WATER-RACES.

Waimea-Kumara—A. Aitken
Mount Ida—R. Murray

SCHOOLS OF MINES.

Lecturers and Instructors: Thames—F. B. Allen, M.A., B.Sc.; Assistant, W. H. Baker; Reefton— ; Coromandel—J. M. MacLaren, M.A.; Waihi—P. G. Morgan, M.A.

BOARD OF EXAMINERS UNDER "THE COAL-MINES ACT, 1891."

The Director of the Geological Survey of New Zealand; the Surveyor-General; the Inspecting Engineer of Mines; the Chief Inspector of Machinery, Wellington; James Bishop, of Brunnerton; Thomas Brown, of Denniston; and William Shore, of Kaitangata

BOARD OF EXAMINERS UNDER "THE MINING ACT, 1891."

Same official members as above Board, with the following private members: H. A. Gordon and Thomas Aitken Dunlop, of the Thames; Patrick Quirk Caples, of Reefton, and Francis Hodge, of Coromandel.

The Director of the Geological Survey of New Zealand is Chairman of both Boards, and Mr. T. H. Hamer is the Secretary.

GEOLOGICAL SURVEY, MUSEUM, AND OBSERVATORIES.

Minister in Charge—The Hon. Minister of Mines
Director—Sir J. Hector, K.C.M.G., M.D., F.R.S.
Clerk, Curator, and Meteorological Observer for Wellington—R. B. Gore
Astronomical Observer—T. King
Meteorological Observer, Auckland—T. F. Cheeseman, F.L.S.
Meteorological Observer, Dunedin—H. Skey
Meteorological Observer, New Plymouth—E. Veale
Meteorological Observer, Hokitika—A. D. Macfarlane

NEW ZEALAND INSTITUTE.

Manager—Sir J. Hector, K.C.M.G., M.D., F.R.S.
Hon. Treasurer—W. T. L. Travers, F.L.S.
Secretary—R. B. Gore

DEFENCE DEPARTMENT.

Minister of Defence—Hon. T. Thompson
Under-Secretary—Sir A. P. Douglas, Bart. (Retired Lieutenant R.N.), Major N.Z.M.

Commander of the N.Z. Forces.

Colonel Arthur Pole Penton, R.A.

Staff-officer to the Commander of the N.Z. Forces.

Major Wm. Robarts Napier Madocks, N.Z.M. (Lieutenant R.A.)
Clerk—T. F. Grey
Cadet—A. J. Baker

Defence Store Department.

Storekeeper—Capt. S. C. Anderson.
Assistant Storekeeper—T. H. Sewell
Clerk—J. O'Sullivan

NEW ZEALAND PERMANENT MILITIA.

No. 1 Service Company.

Major W. B. Messenger
Captain H. C. Morrison
Captain J. Coleman
Lieutenant J. E. Hume
Lieutenant H. E. Pilkington
Lieutenant W. P. Wall

Inspectors of Submarine Mining Establishment.

Captain J. Falconer
Captain William Coyle

No. 2 Service Company.

Captain J. Falconer
Captain William Coyle

Quartermaster, Permanent Militia.

Captain S. C. Anderson

Surgeon, Permanent Militia (Wellington).

John Teare, M.B.

Surgeon, Permanent Militia (Auckland).

John Wilkins, M.R.C.S.E.

Surgeon, Permanent Militia (Lyttelton).

C. H. Upham, M.R.C.S.E.

Honorary Surgeon, Permanent Militia.

Patrick J. O'Neill O'Carroll, L.R.C.S.I.

Honorary Chaplain, Lyttelton Detachment Permanent Militia.

The Rev. E. E. Chambers

Honorary Chaplain, Wellington Detachment Permanent Militia.

The Rev. W. C. Waters, M.A.

Officers Commanding Militia and Volunteer Districts, and Adjutants.

Auckland—Lieut.-Colonel Joseph Henry Banks, N.Z.M. (late Major H.M. 7th Dragoon Guards, &c.). Acting Adjutant: Captain John Grant, N.Z. Vols.
Wellington — Lieut.-Colonel Stuart Newall, N.Z.M.
Canterbury—Lieut.-Colonel Henry Gordon, N.Z.M., late H.M. 44th Foot
North Otago (sub-district)—V.D. Major Alfred Headland
Otago—Lieut.-Colonel William Holden Webb, N.Z.M., late H.M. 109th Foot
Southland (sub-district)—Captain John Edward Hawkins
Nelson—V.D. Lieut.-Colonel Albert Pitt, N.Z.M. Adjutant: Wm. S. Littlejohn (Captain, Nelson College Cadets)

DEPARTMENT OF LANDS AND SURVEY.

HEAD OFFICE.

Minister of Lands—Hon. John McKenzie
Surveyor-General and Secretary for Crown Lands—S. Percy Smith, F.R.G.S.
Assistant Surveyor-General and Under-Secretary for Crown Lands—Alexander Barron
Chief Draughtsman—F. W. Flanagan
Chief Clerk—W. S. Short
Chief Accountant—H. J. Knowles
Auditor of Land Revenue—W. G. Runcie
Superintendent of Village-settlements—J. E. March

AUCKLAND DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—G. J. Mueller
District Surveyors—L. Cussen, J. Baber, jun., G. A. Martin, A. H. Vickerman, H. D. M. Haszard
Assistant Surveyors—T. K. Thompson, R. S. Galbraith
Road Surveyors—C. W. Hursthouse, A. B. Wright, R. H. Reaney
Chief Draughtsman—W. C. Kensington
Receiver of Land Revenue—T. M. Taylor

HAWKE'S BAY DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—E. C. Gold-Smith (also District Land Officer, Gisborne)
District Surveyors—L. Smith, James Hay, W. J. Wheeler
Assistant Surveyor—P. A. Dalziel, J. Mouat
Chief Draughtsman—F. Simpson
Receiver of Land Revenue—F. Bull

TARANAKI DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—J. Strauchon
District Surveyors—H. M. Skeet, G. H. Bullard
Assistant-Surveyors—J. F. Frith, W. T. Morpeth
Road Surveyor—G. F. Robinson
Chief Draughtsman—F. E. Clarke
Receiver of Land Revenue—G. P. Doile

WELLINGTON DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—J. W. A. Marchant
District Surveyors—J. D. Climie, F. A. Thompson, H. J. Lowe
Assistant Surveyors—J. McKay, J. G. Littlejohn, H. Maitland
Road Surveyors—G. T. Murray, A. C. Turner
Chief Draughtsman—J. Mackenzie
Receiver of Land Revenue—T. G. Wait

Nelson District.

Chief Surveyor and Commissioner of Crown Lands—T. Humphries
District Surveyors—J. A. Montgomerie, J. Snodgrass, R. T. Sadd
Assistant Surveyors—J. D. Thomson, D. Innes Barron
Chief Draughtsman and Receiver of Land Revenue—H. Trent
Caretaker, Hanmer Springs—J. Rogers
Manager, Hanmer Springs Sanatorium—D. McDonald

Marlborough District.

Chief Surveyor and Commissioner of Crown Lands—C. W. Adams
District Surveyors—F. S. Smith, D. W. Gillies
Assistant Surveyor—E. W. Buckeridge
Chief Draughtsman and Receiver of Land Revenue—G. Robinson

Westland District.

Chief Surveyor and Commissioner of Crown Lands—W G. Murray
Assistant Surveyor—W. Wilson
Road Surveyor—F. B. Wither
Chief Draughtsman and Receiver of Land Revenue—G. J. Roberts

Canterbury District.

Chief Surveyor and Commissioner of Crown Lands—S. Weetman
District Surveyors—T. N. Broderick, G. H. M. McClure, L. O. Mathias
Chief Draughtsman—C. B. Shanks
Receiver of Land Revenue—A. A. McNab

Otago District.

Commissioner of Crown Lands—J. P. Maitland
Chief Surveyor—John Hay
District Surveyors—J. Langmuir, E. H. Wilmot, D. M. Calder
Assistant Surveyors—W. D. R. McCurdie, W. T. Neill
Chief Draughtsman—S. Thompson
Receiver of Land Revenue—G. A. Reade

Southland District.

Chief Surveyor and Commissioner of Crown Lands—David Barron
Assistant Surveyor—A. Hodgkinson
Chief Draughtsman—J. G. Clare
Receiver of Land Revenue—H. L. Welch

Members of Land Boards.

Auckland—G. Mueller, R. Thompson, B. Harris, D. Lundon, J. Renshaw
Hawke's Bay—E. C. Gold-Smith, C. Hall, T. Hyde, R. R. Groom, G. Mathewson
Taranaki—J. Strauchon, T. Kelly, C. K. Stock, J. Heslop, H. J. C. Coutts
Wellington—J. W. A. Marchant, A. W. Hogg, J. Stevens, H. A. Field, A. Reese
Nelson—Thomas Humphries, John Graham, D. Bate, F. Hamilton, O. Lynch
Marlborough—C. W. Adams, C. H. Mills, J. Redwood, A. P. Seymour
Westland—W. G. Murray, A. Matheson, J. Chesney, J. S. Lang
Canterbury—S. Weetman, A. C. Pringle, R. Meredith, D. McMillan, J. McLachlan
Otago—J. P. Maitland, H. H. Kirkpatrick, H. Clark, J. Duncan, W. Dallas
Southland—David Barron, A. Kinross, J. McIntyre, A. Baldey, D. King

Board of Examiners of Surveyors.

The Surveyor-General; the Assistant Surveyor-General; the Chief Surveyors for the Land Districts of Wellington, Hawke's Bay, Nelson, and Canterbury
Secretary to Board—T. M. Grant

"THE LAND FOR SETTLEMENTS ACT, 1894."

Board of Land Purchase Commissioners.

Chairman of Board and Land Purchase Inspector—Jas. McKerrow, F.R.A.S.

The Board consists of the Land Purchase Inspector as Chairman, the Surveyor-General, the Commissioner of Taxes—these for the whole colony—with the Commissioners of Crown Lands and a member of the Land Board in each land district, who are members only for the business arising within their respective districts.

DEPARTMENT OF AGRICULTURE.

Chief Office.

Minister in Charge—Hon. J. McKenzie
Secretary of Agriculture and Chief Inspector of Stock—John D. Ritchie
Assistant Chief Inspector of Stock—T. A. Fraser
Chief Clerk—Richard Evatt
Clerk and Biologist—T. W. Kirk, F.L.S.
Assistant Entomologist at Auckland—Thomas Broun, F.E.S.
Veterinary Surgeons—J. A. Gilruth, M.R.C.V.S. (Chief); Archibald Park, M.R.C.V.S.; C. J. Reakes, M.R.C.V.S.

Produce Commissioner, London—H. C. Cameron
Dairy Commissioner—J. A. Ruddick
Dairy Instructors and Graders—James Sawers, J. T. Lang, A. A. Thornton, R. W. D. Robertson, James Johnston, A. Büsck
Pomologists — W. J. Palmer, J. C. Blackmore, S. I. Fitch
Poultry Expert—D. D. Hyde

INSPECTORS OF STOCK.

Auckland—E. Clifton (in charge), F. Schaw, Auckland; D. Fleming, Whangarei; D. Ross, Hamilton; H. E. Collett, Whakatane
Napier—W. Miller (in charge), H. Oldham, Napier; W. R. Rutherfurd, Napier; C. Thomson, Gisborne; J. Harvey, Woodville
Wairarapa—G. H. Jenkinson, Masterton (in charge); F. G. Wayne, Carterton
Wellington—J. Drummond, Wellington
West Coast—A. K. Blundell (in charge), Wanganui; F. E. Orbell, Hawera; H. G. J. Hull, Palmerston North
Nelson—H. M. Campbell, Nelson (in charge); G. S. Cooke, Richmond
Marlborough—John Moore, Blenheim
Westland—V. A. Huddleston, Hokitika
Canterbury-Kaikoura—R. F. Holderness (in charge), E. A. Dowden, Christchurch; C. A. Cunningham, Rangiora; J. C. Huddleston, Rotherham; Blair Fullarton, Ashburton
South Canterbury—C. C. Empson, Timaru; J. W. Deem, Fairlie; F. H. Brittain, Kurow
Otago—J. E. Thomson, Dunedin; J. S. Nichol, Outram; J. C. Miller, Oamaru; R. Bree, Milton; J. L. Bruce, Balclutha; A. Ironside, Clyde; R. I. Gossage, Naseby; A. Mills, Lawrence; James Duncan, Palmerston; E. A. Field, Gore; H. T. Turner, Invercargill; J. A. Easton, Riverton; J. W. Raymond, Bluff

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VALUATION DEPARTMENT.

Valuer-General—John McGowan
Deputy Valuer-General—G. F. C. Campbell
Chief Clerk—F. J M. D. Walmsley
Clerks—J. P. Dugdale, H. L. Wiggins, A. W. Knowles, H. O'Rourke, J. T. Bolt, H. Redmond, J. Ferguson
Draughtsman—H. H. Seed
Supervising Valuers—W. Duncan, Auckland; A. Barns, Wanganui; T. K. Macdonald, Wellington; A. P. O'Callaghan, Christchurch; A. McKerrow, Dunedin; H. Carswell, Invercargill
District Valuers—James I. Wilson, jun., Whangarei; J. J. Reynolds, Auckland; W. Garrett, Paeroa; W. H. Wallis, Hamilton; Ian S. Simson, Gisborne; W. E. Griffin, Napier; S. Hill, New Plymouth; R. Gardner, Palmerston North; J. Fraser, Masterton; E. Kenny, Picton; J. Webster, Hokitika; D. Dick, Ashley; J. Whitelaw, Christchurch; A. Freeman, Christchurch; A. Allan, Timaru; E. A. Atkinson, Oamaru; W. L. Craig, Palmerston South; W. Dallas, Balclutha; A J. Burns, Dunedin; J. George, Queenstown; T. Green, Gore; A. Macpherson, Invercargill
Clerks—Auckland, E. W. Watson; Christchurch, J. M. Wheeler, A. Millar; Dunedin, A. Clothier; Invercargill, T. Oswin, C. de R. Andrews
Cadets—Christchurch, E. J. R. Cumming; Dunedin, H. A. Anderson

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GOVERNMENT LIFE INSURANCE DEPARTMENT.

Commissioner—J. H. Richardson, F.F.A., F.I.A.V.
Assistant Commissioner—D. M. Luckie
Actuary—Morris Fox
Secretary—W. B. Hudson
Chief Medical Officer—T. Cahill, M.D.
Accountant—G. W Barltrop
Assistant Actuary—G. Leslie
Chief Clerk—R. C. Niven
Second Assistant Actuary—P. Muter
Office Examiner—G. A. Kennedy
Clerks—J. W. Kinniburgh, D. J. McG. McKenzie, W. S. Smith, A. H. Hamerton, F. B. Bolt, C. E. Galwey, T. L. Barker, H. Spackman, A. L. B. Jordan, H. S. Manning, A. Avery, G. Webb, C. W. Palmer, C. J. Alexander, F. K. Kelling, J. B. Young, G. C. Fache, J. A. Thomson, R. T. Smith, A. W. G. Burnes, F. W. Beale, H. Rose, A. de Castro, R. P. Hood, G. A. N. Campbell, F. M. Leckie, W. H. Woon, A. T. Traversi, S. P. Hawthorne, J. G. Reid, A. E Jackson, C. H. E. Stichbury, J. R. Samson, H. H. Henderson, R. Fullerton A. H. Johnstone, J. S. Butler, R S. Latta, H. Davies,

T. Fouhy, J. Lindsay, J. R. Fraser, G. E. Sadd, J. T. Gunn, T. M. Dimant, W. Spence, J J. Feeney
Chief Messenger—W. Archer

AUCKLAND AGENCY.

District Manager—W. J. Speight
Chief Clerk—J. K. Blenkhorn
Clerk—J. B. Watkis

NAPIER AGENCY.

Resident Agent—J. H. Dean
Clerk—G. C. Rodda

WANGANUI AGENCY.

Resident Agent—J. Fairburn
Clerk—W. Rattray

WELLINGTON AGENCY.

District Manager and Supervisor of New Business—G. Robertson
Chief Clerk—M. J. K. Heywood
Clerks—W. C. Marchant and A. M. McDonald

NELSON AGENCY.

Resident Agent—A. P. Burnes

BLENHEIM AGENCY.

Agency Clerk—C. H. Ralph

GREYMOUTH AGENCY.

Resident Agent—A. E. Allison

CHRISTCHURCH AGENCY.

District Manager—J. C. Prudhoe
Chief Clerk—J. W. H. Wood
Clerk—G. J. Robertson

TIMARU AGENCY.

Agency Clerk—S. T. Wicksteed

OAMARU AGENCY.

Resident Agent—O. H. Pinel

DUNEDIN AGENCY.

District Manager—R. S. McGowan
Chief Clerk—G. Crichton
Clerks—A. Marryatt and G. S. Nicoll

INVERCARGILL AGENCY.

Resident Agent—J. Findlay

PUBLIC TRUST OFFICE.

Public Trustee—J. O. Martin
Deputy Public Trustee—A. A. Duncan
Solicitor—F. J. Wilson
Chief Clerk—T. S. Ronaldson
Accountant—M. C. Barnett
Clerks — T. Stephens, M. Townsend, P. Fair, C. Zachariah, P. Hervey, E. C. Reeves, W. A. Fordham, A. Purdie, G. A. Smyth, A. J. Cross, N. Levien, W. McGowan, M. E. Harrap, S. Dimant, E. A. Smythe, W. Barr, E. O. Hales, C. Morris, S. W. Smith, O. A. Goldsmith, H. Masters, W. Campbell, R. Price, M. Leahy, H. Turner
District Agent, Christchurch—J. J. M. Hamilton; Clerks, J. Allen, T. R. Saywell
District Agent, Auckland—E. F. Warren; Clerk, E. Holloway; Cadet, K. N. H. Browne
District Agent, Dunedin—F. H. Morice; Typist, F. Naphtali; Cadet, J. B. Jack
District Agent, Greymouth—T. D. Kendall
District Agent, Napier—
District Agent, Nelson—E. P. Watkis
West Coast Settlement Reserves Agent —Thomas W. Fisher; Clerk, H. Oswin

ADVANCES TO SETTLERS OFFICE.

Superintendent—John McGowan
Deputy Superintendent—G. F. C. Campbell
Chief Clerk—F. J. M. D. Walmsley
Inspecting Accountant—P. Heyes
Clerks—W. Waddel, T. C. Somers, H. E. Williams, W. Hincholiffe, J. Atkinson, T. W. Foote, J. E. Thompson, W. Auld, C. T. Fraser, A. A. Prichard, M. J. Crombie, C. Wilson, C. B. Collins, D. Fraser, R. G. McLennan, C. G. Collins
Chief Valuers—W. Duncan, Auckland; A. Barns. Wanganui; T. Kennedy Macdonald, Wellington; A. P. O'Callaghan, Christchurch; A. McKerrow, Dunedin; H. Carswell, Invercargill
Clerks at Agencies—F. B. Robertson, H. Barron

CADETS IN GOVERNMENT SERVICE TO BE VOLUNTEERS.

Cadets in the Civil Service are required, after arriving at the age of eighteen years, to serve for three years in a Volunteer corps. Heads of departments are required to notify the Under Secretary for Defence of the appointment of all cadets coming within this regulation.

ECCLESIASTICAL.

THERE is no State Church in the colony, nor is State aid given to any form of religion. Government in the early days set aside certain lands as endowments for various religious bodies, but nothing of the kind has been done for many years past.

CHURCH OF THE PROVINCE OF NEW ZEALAND, COMMONLY CALLED THE "CHURCH OF ENGLAND."

Bishops.

The Most Rev. William Garden Cowie, D.D., Auckland; consecrated 1869 (Primate).

The Right Rev. William Leonard Williams, B.A., Waiapu; consecrated 1895.

The Right Rev. Frederic Wallis, D.D., Wellington; consecrated 1895.

The Right Rev. Charles Oliver Mules, M.A., Nelson; consecrated 1892.

The Right Rev. Churchill Julius, D.D., Christchurch; consecrated 1890.

The Right Rev. Samuel Tarratt Nevill, D.D., Dunedin; consecrated 1871.

The Right Rev. Cecil Wilson, M.A., Melanesia; consecrated 1894.

ROMAN CATHOLIC CHURCH.

Archbishop.

The Most Rev. Francis Redwood, S.M., D.D., Archbishop and Metropolitan, Wellington; consecrated 1874.

Bishops.

The Right Rev. George Michael Lenihan, D.D., Auckland; consecrated 1896.

The Right Rev. John Joseph Grimes, S.M., D.D., Christchurch; consecrated 1887.

The Right Rev. Michael Verdon, D.D., Dunedin; consecrated 1896.

ANNUAL MEETINGS AND OFFICERS.

The principal present heads or officers of the various churches, and the places and times of holding the annual or periodical assemblies or meetings, are as follow:—

Church of England.—For Church purposes, the colony is divided into six dioceses—viz., Auckland, Waiapu, Wellington, Nelson, Christchurch, and Dunedin. The General Synod meets every third year in one or other of the dioceses.—President, the Bishop of Auckland, Primate; Secretary, Rev. J. P. Kempthorne, Nelson; Lay Secretary, H. J. H. Blow, Esq., Wellington. The Diocesan Synods meet once a year, under the presidency of the Bishop of the diocese. The next General Synod will be held in Napier, in January, 1901.

Roman Catholic Church.—The diocese of Wellington, established in 1848, was in 1887 created the metropolitan see. There are three suffragan dioceses—Auckland, Christchurch, and Dunedin. A Retreat is held annually in each of the four dioceses, at the end of which a Synod is held, presided over by the Bishop, and at which all his clergy attend.

Presbyterian Church of New Zealand.—The Assembly meets annually, in February, at Auckland, Wellington, and Christchurch, in succession. Moderator, the Right Rev. David John Steele, M.A.; Clerk and Treasurer, Rev. David Sidey, D.D., Napier.

Presbyterian Church of Otago and Southland.—The Synod meets annually in October at Dunedin. Moderator, Rev. George Lindsay, Invercargill; Clerk, Rev. W. Bannerman, Roslyn, Dunedin; Church Factor, Mr. Frederick Smith, High Street, Dunedin. Theological Professors, Rev. John Dunlop, M.A., D.D., and Rev. Michael Watt, M.A., D.D. Mr. James Dunbar, Tutor in Greek.

Wesleyan Methodist Church.—The annual Conference meets on or about the last Tuesday in February, the exact date being determined by the President, who holds office for one year. Each Conference determines where the next one shall assemble. President (1899–1900), Rev. J. Orchard, Kaiapoi; Secretary, Rev. D. J. Murray, Thames. The next Conference is to meet in Pitt Street Church, Auckland.

Primitive Methodists.—A Conference takes place every January. The next is to be held at Stratford, Taranaki, commencing 12th January, 1900. The Executive Committee of the Church sits in Auckland. The Conference officials for the present year are: President, Rev. Peter W. Jones, Timaru; Vice-President, James Taylor, Esq., J.P., Tawa Flat, Wellington; Secretary, Rev. Joseph Sharp, Collingwood Street, Auckland; Secretary of Executive Committee and Treasurer of Mission Funds, Mr. D. Goldie, Pitt Street, Auckland.

Baptist Union of New Zealand.—President, H. H. Driver, Esq., Dunedin; Treasurer, Mr. A. Chidgey, Christchurch; Secretary, Rev. A. H. Collins, Auckland. The Union comprises 31 churches, 3,240 members, 5,055 scholars in the Sunday schools, with 583 teachers. There were also 89 local preachers, and 22 preaching-stations. This religious body has a newspaper of its own—the *New Zealand Baptist*—published in Christchurch; Editor, Rev. Arthur Dewdney, Oamaru.

Congregational Union of New Zealand.—The annual meetings are held during the month of February, at such place as may be decided on by vote of the Council. Chairman for 1899–1900, Mr. George Fowlds, Auckland; Chairman-elect, Rev. S. J. Baker, Christchurch; Secretary, Rev. Frederic Warner, Auckland; Treasurer, Mr. W. H. Lyon, Auckland; Registrar, Mr. F. Meadowcroft, Wellington; Head Office, Auckland. In 1900 the meeting of the

Council will be held at Wellington. The Committee of the Union meets in Auckland on the second Tuesday of each month.

Hebrews.—Ministers: Rev. S. A. Goldstein, Auckland; Rev. H. van Staveren, Wellington; Rev. A. T. Chodowski, Dunedin; Mr. Alexander Singer, Hokitika. Annual meetings of the general Congregations are usually held at these places during the month of Elul (about the end of August).

DEFENCES, MILITARY AND NAVAL.

The defence forces consist of the Permanent Militia (Artillery and Submarine Mining Corps), and the auxiliary forces of Volunteers (Cavalry, Mounted Rifles, Naval Artillery, Field Artillery, Engineers, and Rifle companies). There is a Commander of the Forces, who is an Imperial officer, and he has a Staff officer who is also an Imperial officer. To the Under-Secretary for Defence all questions of expenditure are referred; while the Chief Engineer of the Public Works Department has charge of the defence-works.

Militia and Volunteer Districts.

The two islands (North and Middle) are divided into five districts and two sub-districts, each commanded by a Field Officer of Militia or Volunteers, with a staff of drill-sergeants.

Permanent Militia (Artillery).

This Force is divided into four companies, which are stationed at Auckland, Wellington (head-quarters), Lyttelton, and Dunedin; their principal duties are to look after and take charge of all guns, stores, ammunition, and munitions of war at these four centres. The Force consists of one major, two captains, three subalterns, with an establishment of 217 of all ranks.

Permanent Militia (Submarine Miners).

This branch, like the Artillery, is divided amongst the four centres for submarine mining and torpedo work, and consists of two captains, with a total establishment of 76 of all ranks. They have charge of four torpedo-boats and four steam-launches, and of all submarine mining and torpedo stores. They are likewise employed in blowing up rocks and wrecks, and generally improving harbours.

Volunteers.—Cavalry.

There are two troops of Cavalry, both being in the Middle Island. These corps are kept in a state of efficiency by going into camp for six days' training annually. The total strength of the two troops is 117 of all ranks.

Volunteers.—Mounted Rifles.

There are sixteen corps of Mounted Rifles, nine in the North Island and seven in the Middle Island, with a total strength of 974 of all ranks. These corps go into camp for an annual training of six days.

VOLUNTEERS.—NAVAL ARTILLERY.

There are nine batteries of this branch of the service (six in the North Island and three in the Middle Island), having a total strength of 815 of all ranks. These corps are divided into port and starboard watches at the four centres; some of these corps are trained to assist the Permanent Artillery in working heavy ordnance, whilst others act as auxiliaries to the Submarine Miners in submarine mining and torpedo work. These corps have cutters and other boats provided and kept up for them, and are instructed in rowing, knotting, splicing, signalling, and such like duties.

VOLUNTEERS.—GARRISON ARTILLERY.

There is one corps of Garrison Artillery in the North, with a strength of 102 of all ranks, and one in the Middle Island, with a strength of 54 of all ranks.

VOLUNTEERS.—FIELD ARTILLERY.

There are five batteries of Field Artillery (two in the North Island and three in the Middle Island), with a total of 332 of all ranks. They are armed with 9-pounder Armstrong breech-loading rifled guns and 6-pounder Nordenfeldts, on field-carriages.

VOLUNTEERS.—ENGINEERS.

This branch consists of three corps, with a total of 211 of all ranks, one in the North and two in the Middle Island. Besides carrying rifles they are provided with entrenching tools and all appliances for blowing up bridges or laying land-mines.

VOLUNTEERS.—RIFLE CORPS.

In this branch of the service there are seventy-three corps (besides one honorary reserve, 45 strong), thirty-five being in the North Island and thirty-eight in the Middle Island, with a total strength of 4,646 of all ranks, including garrison bands.

VOLUNTEERS.—CADET CORPS.

There is a force of forty-one cadet corps—viz., fifteen in the North Island and twenty-six in the Middle Island, with a total strength of 2,295 of all ranks.

ORDNANCE, ARMS, ETC.

The armament at the forts of the four centres consists of 8 in. 13-ton breech-loading rifled Elswick Ordnance Company's guns, with 6 in. 5-ton, of like pattern, all mounted on hydro-pneumatic disappearing carriages; 7 in. 7-ton muzzle-loading rifled guns, on traversing slides; 64-pounder rifled muzzle-loading converted 71 cwt. guns, on garrison standing carriages and traversing slides; 64-pounder rifled muzzle-loading 64 cwt. guns on traversing slides; 6-pounder quick-firing Nordenfeldts, on garrison pillar-mountings, and field-carriages; Hotchkiss quick-firing guns and Maxim machine guns. The Volunteer Field Artillery are armed with 9-pounder Armstrong breech-loading rifled guns, and 6-pounder Nordenfeldts, and the whole of the adult portion of the Force have carbines or rifles of Martini-Enfield and Martini-Henry patterns; Cadets being armed with Snider carbines.

There is a large stock of Whitehead torpedoes, contact- and ground-mines, in charge of the Submarine Mining Companies, as well as four Thorneycroft torpedo-boats.

Enrolment, etc.

Members of the Permanent Militia are enrolled to serve until lawfully discharged, and Volunteers for one year. The Permanent Militia is principally recruited from men who have one year's efficient service in the Volunteers; and after passing the gunnery and other courses and serving three years in the Permanent Militia the men are eligible for transfer to police and prison services.

Instructors.

The Instructors for Permanent Artillery and Torpedo Corps are obtained from the School of Gunnery at Shoeburyness, and from the Royal Engineers, under a three years' engagement, on completion of which they return to their regiments.

Capitation.

An annual capitation of £2 10s. is granted to each efficient Volunteer, and a sum not exceeding £20 to each efficient cadet corps. One hundred and fifty rounds of ball-cartridge are issued each year free to every adult Volunteer, and twenty-five rounds of Snider ball to each cadet over thirteen years of age.

Administration.

The defence forces of New Zealand are administered under "The Defence Act, 1886."

Expenditure on the Establishment and Maintenance of Defences from 1884–85 to 1898–99.

Year.	Military Expenditure.	Harbour Defences.	Total.
	£	£	£
1884–85	90,816	9,601	100,417
1885–86	91,242	127,167	218,409
1886–87	89,927	139,429	229,356
1887–88	122,061	73,458	195,519
1888–89	53,591	50,089	103,680
1889–90	63,614	15,752	79,366
1890–91	80,891	10,798	91,689
1891–92	75,343	7,644	82,987
1892–93	59,808	11,205	71,013
1893–94	56,570	3,976	60,546
1894–95	62,181	2,495	64,676
1895–96	84,981	3,314	88,295
1896–97	82,443	4,690	87,133
1897–98	83,004	2,525	85,529
1898–99	114,789	10,158	124,947

DÉPÔTS FOR SHIPWRECKED MARINERS.

As eleven of the crew of the barque "Spirit of the Dawn," which was wrecked on Antipodes Island on the 4th September, 1893, remained on the island for eighty-eight days without becoming aware of the existence of the dépôt of provisions and clothing for castaways which is established there, attention may usefully be drawn to the fact that such dépôts are maintained by the New Zealand Government on that island, and on the Auckland, Campbell, Bounty, Kermadec, and Snares Islands.

The following are the positions of the dépôts :—

Auckland Islands.—A dépôt is placed on the south side of Erebus Cove, Port Ross, and another in Camp Cove, Carnley Harbour, and a third at the head of Norman Inlet. One boat is placed on the north-west end of Adams Island, another on Enderby Island, and another on Rose Island.

Campbell Island.—A dépôt is erected in Tucker Cove, Perseverance Harbour, and a boat has been placed at the head of that harbour.

Antipodes Islands.—A dépôt is placed abreast the anchorage on the north-east side of the principal island.

Bounty Islands.—There is a dépôt on the principal island.

Snares Island.—A dépôt has been established on this island in Boat Harbour.

Kermadec Islands.—A dépôt is established on Macaulay Island, near Lava Cascade, on the north-east end of the island, and another on Curtis Island, at the head of Macdonald Cove, on the north-western end of the island.

Finger-posts to indicate the direction of the dépôts have also been put up.

The Government steamer visits the Auckland, Campbell, Antipodes, Bounty, and Snares Islands twice a year, and the Kermadec Islands once a year.

GRAVING DOCKS AND PATENT SLIPS.

VESSELS visiting New Zealand, and requiring docking or repairs, will find ample accommodation at the principal ports of the colony.

There are in New Zealand four graving-docks ; two of these are situated in Auckland, one at Lyttelton, and one at Port Chalmers.

AUCKLAND DOCKS.

The Auckland Docks are the property of the Auckland Harbour Board, and cost, with machinery, appliances, &c., £207,000. The dimensions of the docks at Auckland are as follow :—

	Calliope Dock.	Auckland Dock.
Length over all	525 feet.	312 feet.
Length on floor	500 "	300 "
Breadth over all	110 "	65 "
Breadth on floor	40 "	42 "
Breadth at entrance	80 "	43 "
Depth of water on sill at high water ordinary spring tides)	33 "	13½ "

The following is the scale of charges for the use of the Auckland and Calliope Graving Docks and appliances :—

AUCKLAND GRAVING DOCK.

	£	s.	d.
Entrance fee	1	1	0
For every vessel of 100 tons (gross register), or under, per day	4	0	0
For every vessel over 100 tons (gross register), for first 100 tons, per day	4	0	0
For every additional ton (gross register), per day ..	0	0	2
For two or more vessels docking at the same time, the tonnage of which together does not exceed 100 tons (gross register), per day each	2	10	0

For shores cut in docking or hanging the vessel, there must be paid, according to injury done, such amount as may be fixed by the Dockmaster.

For use of steam-kiln, 10s. per day.

For use of pitch furnace, 10s. per day.

CALLIOPE GRAVING DOCK.

	£	s.	d.
Entrance fee	5	5	0
For all vessels up to 300 tons (gross register)	20	0	0
For all vessels 301 to 400 tons "	22	10	0
" 401 to 500 tons "	25	0	0
" 501 to 600 tons "	27	10	0
" 601 to 700 tons "	30	0	0
" 701 to 800 tons "	32	10	0
" 801 to 900 tons "	35	0	0
" 901 to 1,000 tons "	37	10	0
" 1,001 to 1,100 tons "	40	0	0
" 1,101 to 1,200 tons "	45	0	0
" 1,201 to 1,300 tons "	50	0	0
" 1,301 to 1,500 tons "	55	0	0
" 1,501 to 2,000 tons "	60	0	0
" 2,001 to 3,000 tons "	65	0	0
" 3,001 to 4,000 tons "	70	0	0
" 4,001 to 5,000 tons "	75	0	0

The foregoing charges are for three days or less. After the third day in dock the following rates are charged :—

For all vessels up to 500 tons (gross register) ..	4d. per ton per diem.
For all vessels of 501 tons to 1,000 tons	3d. "
For all vessels over 1,001 tons up to 2,000 tons ..	2½d. "
For all vessels over 2,001 tons and upwards ..	2d. "

Twenty per cent. reduction on Calliope Dock rates is allowed when two or three vessels can arrange to dock on the same tide, and remain in dock the same number of hours; but such reduction is not allowed if any of the Auckland Harbour Board's vessels are docked at the same time as another vessel.

For shores cut in docking or hanging the vessel, there is to be paid, according to injury done, such amount as may be fixed by the Dockmaster.

During the year 1898, 85 vessels of various descriptions, with a total of 39,319 tons, made use of the Auckland Graving Dock, occupying it in all 145 days 8 hours, for repairs or painting.

In Calliope Dock 13 vessels were docked, viz. : 1 warship and 12 merchant steamers, also 1 dredge (twice), of an aggregate tonnage of 11,479, occupying the dock for 57 days 7 hours.

Dock dues for the year amounted to £1,402 6s. 9d.

LYTTELTON DOCK AND PATENT SLIP.

The Graving-dock at Lyttelton, which is the property of the Harbour Board, is capable of docking a first-class ironclad, or any of the large ocean steamers except the "Gothic" now running to the colony. Its general dimensions are: Length over all, 503ft.; length on floor, 450ft.; breadth over all, 82ft.; breadth on floor, 46ft.; breadth at entrance, 62ft.; breadth where ship's bilge would be, on 6ft. blocks, 55ft.; depth of water on sill at high-water springs, 23ft.

The scale of charges for the use of the dock and pumping machinery are as follow:—

		£	s.	d.
For all vessels up to 300 tons, for four days or less	..	20	0	0
„ 301 to 400 tons, „	..	22	10	0
„ 401 to 500 tons, „	..	25	0	0
„ 501 to 600 tons, „	..	27	10	0
„ 601 to 700 tons, „	..	30	0	0
„ 701 to 800 tons, „	..	32	10	0
„ 801 to 900 tons, „	..	35	0	0
„ 901 to 1,000 tons, „	..	37	10	0
„ 1,001 to 1,100 tons, „	..	40	0	0
„ 1,101 to 1,200 tons, „	..	45	0	0
„ 1,201 tons and upwards, „	..	50	0	0

After the fourth day in dock, the following rates are charged:—

For all vessels up to 500 tons ..	..	4d.	per ton per day.
For all vessels of 501 tons to 1,000 tons	..	3d.	„
For all vessels over 1,001 tons up to 2,000 tons	..	2¾d.	„
„ 2,001 tons up to 3,000 tons	..	2½d.	„
„ 3,001 tons up to 4,000 tons	..	2¼	„
„ 4,001 tons up to 5,000 tons	..	2d.	„

Twenty per cent. reduction on the above rates is allowed when two or three vessels can arrange to dock on the same tide and remain in dock the same number of hours. Two vessels of 1,000 tons each can be docked at the same time. The 20-per-cent. rebate is not allowed if any of the Lyttleton Harbour Board's vessels are docked at the same time as another vessel. The twenty-four hours constituting the first day of docking commences from the time of the dock being pumped out.

Any vessel belonging to H.M. Navy or any colonial Government, or any commissioned ship belonging to any foreign nation, is admitted into the graving dock without payment of the usual dock dues, but is charged only such sum as is necessary for the reimbursement of actual expenditure of stores, wages, and materials.

There are electric lights, one on each side of the graving-dock; and there is a workshop alongside the dock, and several other engineering works within a short distance of it, where repairs and heavy foundry-work can be done.

The graving dock and machinery cost £105,000. The interest and sinking fund on that sum, at 6½ per cent., amounts to £6,825 per annum. Since its construction, the dock dues for the sixteen years, ended 31st December, 1898, amounted to £14,487 13s. 1d., and the working expenses to £9,454 9s. 3d., leaving a credit balance for sixteen years, ended 31st December, 1898, of £5,033 3s. 10d.

During the year 1898 twenty-three vessels were docked, and the dock dues amounted to £800 3s. 10d. For the sixteen years, ending 1898, 305 vessels were docked.

Alongside the graving dock is a Patent slip, with a cradle 150ft. in length, suitable for vessels of 300 tons. It belongs to the Harbour Board.

Otago Graving Dock.

The dock at Port Chalmers is vested in the Otago Dock Trust, a body entirely distinct from the Otago Harbour Board. Vessels of large size can be taken in the Otago Dock, as the following measurements will show:—

Length over all	335 feet.
Length on the floor	328 "
Breadth over all	68 "
Breadth on floor	41 "
Breadth where ship's bilge would be	43 "
Breadth at dock gates	50 "
Depth of water on sill at high-water (ordinary spring tides)	17½ "

Connected with the Otago Dock are a large machine-shop, steam-hammer, and forge, with all the appliances necessary for performing any work that may be required by vessels visiting the port. An 80-ton shear-legs has also been erected for heavy lifts.

There is also a patent slip, used for taking up small vessels.

All vessels using the Otago Graving Dock are liable to dock dues according to the following scale (unless under special contract), revised since the beginning of 1896:—

	£	s.	d.
Vessels under 200 tons, for the first three days, or part of three days	25	0	0
Vessels of 200 tons, and under 800 tons	30	0	0
" 800 tons and upwards	42	10	0

And for every day, or part of a day, after the first three days:—

Vessels under 300 tons ..	8d.	per register ton per day.
" 300 " and under 400 tons	7¾d.	"
" 400 " " 500 "	7½d.	"
" 500 " " 600 "	7¼d.	"
" 600 " " 700 "	7d.	"
" 700 " " 800 "	6¾d.	"
" 800 " " 900 "	6½d.	"
" 900 " " 1,000 "	6¼d.	"
" 1,000 tons and upwards	6d.	"

During the last twelve months, ending 31st December, 1898, the dock was in use 234 working-days. The number of vessels docked was sixty-four, having a total registered tonnage of 48,970.

Wellington Patent Slip.

The Port of Wellington has no dock; but there is a well-equipped patent slip at Evans Bay, on which vessels of 2,000 tons can be safely hauled up. This slip is the property of a private company, and is in no way connected with the Harbour Board. It is 1,070ft. long, with a cradle 260ft. in length. There is a depth of 32ft. at high water at the outer end of the slip. A dolphin and buoys are laid down for swinging ships in Evans Bay.

The company has convenient workshops, which contain machinery necessary for effecting all ordinary repairs to vessels using the slip.

During the year ending 31st March, 1898, there were 99 vessels of various sizes taken up on the slip for repairs, cleaning, painting, &c., of an aggregate tonnage of 35,200 tons. The charges for taking vessels on the slip and launching them are 1s. per ton on the gross tonnage for the first full twenty-four hours, and 6d. per ton per day afterwards, unless by special agreement.

TIMARU SLIP.

The Timaru slip is capable of taking up a vessel of 200 tons.

NELSON CRADLE.

The Anchor Steamship Company's cradle can take up a vessel of 150 tons.

LIGHTHOUSES.

THE coasts of New Zealand are, considering their extent, fairly well lighted, but there are many places where lights are still required. Additions to the existing lights are made from time to time as funds are available.

Including the lighthouse on East Cape, now building, there are twenty-nine coastal lights—eight of the first order, fifteen of the second, three of the third, and three of smaller orders.

There has been no special difficulty in the erection of lighthouses in New Zealand, apart from the trouble caused by indifferent landings. There are no lighthouses built in the sea, such as the well-known Eddystone or Bell Rock. That on The Brothers is the only one which it is considered necessary to keep as a rock-station: that is, the keepers are relieved from time to time, three being always at the station and one on shore.

The cost of the erection of the lighthouses is given by the Marine Department as about £174,000 (the Ponui Passage Lighthouse, having been built by the Provincial Government of Auckland, the cost is not given). The annual consumption of oil is about 19,800 gallons; and the cost of maintenance, irrespective of the cost of maintaining the lighthouse steamer, is about £13,000 a year.

Besides the coastal lighthouses, there are harbour-lights at most of the ports of the colony for the guidance of vessels into and out of the ports.

The following table shows the names of the lighthouses, indicating also their situation, the order of apparatus, description, period (in seconds) and colour of the lights, and of what material the respective towers are built:—

Name of Lighthouse.	Order of Apparatus.	Description.	Period of Revolving Light.	Colour of Light.	Tower built of.
	Dioptric.		Seconds.		
Cape Maria van Diemen	1st order	Revolving Fixed ..	60 ..	White Red, to show over Columbia Reef	Timber.
Moko Hinou ..	1st " ..	Flashing	10	White	Stone.
Tiri-Tiri (Auckland)	2nd " ..	Fixed ..	..	White, with red arc over Flat Rock	Iron.
Ponui Passage..	5th " ..	" ..	..	White and red ..	Timber
Cuvier Island ..	1st " ..	Revolving	30	White	Iron.
Portland Island	2nd "	" Fixed ..	30 ..	" .. Red, to show over Bull Rock	Timber.
Cape Palliser ..	2nd " ..	Flashing	Twice every half-minute, with three seconds intervals between flashes	White	Iron.
Pencarrow Head	2nd " ..	Fixed ..	..	White	Iron.
Cape Egmont ..	2nd " ..	" ..	..	"	"
Manukau Head	3rd " ..	" ..	..	"	Timber
Kaipara Head ..	2nd " ..	Flashing	10	"	"
Brothers (in Cook Strait)	2nd "	" Fixed ..	10 ..	" .. Red, to show over Cook Rock	"
Cape Campbell	2nd " ..	Revolving	60	White	"
Godley Head (Lyttelton)	2nd " ..	Fixed ..	..	"	Stone.
Akaroa Head ..	2nd " ..	Flashing	10	"	Timber.
Moeraki ..	3rd " ..	Fixed ..	..	"	"
Taiaroa Head ..	3rd " ..	" ..	..	Red	Stone.
Cape Saunders..	2nd " ..	Revolving	60	White	Timber.
Nugget Point ..	1st " ..	Fixed ..	..	"	Stone.
Waipapapa Point	2nd " ..	Flashing	10	"	Timber.
	Catadioptric.				
Dog Island ..	1st order ..	Revolving	30	"	Stone.
	Dioptric.				
Centre Island ..	1st order ..	Fixed ..	..	White, with red arcs over inshore dangers	Timber.
Puysegur Point	1st " ..	Flashing	10	White	"
Cape Foulwind	2nd " ..	Revolving	30	"	"
Farewell Spit ..	2nd " ..	"	60	White, with red arc over Spit end	"
Nelson ..	4th " ..	Fixed ..	..	White, with red arc to mark limit of anchorage	Iron.
French Pass ..	6th " ..	" ..	..	Red and white, with white light on beacon	
Stephens Island	1st "	Group flashing	30	White	"
East Cape (now building)	2nd " ..	Revolving	10	"	"

"THE CIVIL SERVICE INSURANCE ACT, 1893."

It is provided by the above-named Act that every person appointed to the Civil Service under "The Civil Service Reform Act, 1886," or afterwards, shall retire at the age of sixty years; but the Governor in Council may, nevertheless, require any officer who has attained such age to continue to perform his duties, unless unfitted by reason of ill-health or other cause. It is also provided that if any officer appointed under "The Civil Service Reform Act, 1886," shall become permanently incapacitated through no fault of his own he shall receive compensation equal to one month's salary for each year of service. It is further provided that every officer under a certain age, to be fixed by regulations, appointed after the passing of this Act shall effect a policy on his (or her) own life with the Life Insurance Commissioner, providing the following combined benefits:—

(1.) The payment of a sum of money on the death of such officer, should it occur before he attains the age of sixty years (or after that age, in consideration of his paying the necessary additional premium); and

(2.) The payment to such officer of an annuity until death should he survive the age of sixty years.

The policies and moneys secured thereby are not assignable, and cannot be charged or attached, unless the officer leaves the service, voluntarily or otherwise, when he may either surrender the policy or maintain it in force, as he may choose.

The premiums are paid in the form of monthly deductions from salaries, according to the following schedule:—

Salary per Annum.	Monthly Deduction from Salary.	Yearly Deduction.
	£ s. d.	£ s. d.
Under £150	0 8 4	5 0 0
£150 and under £200	0 12 6	7 10 0
£200 " £250	0 16 8	10 0 0
£250 " £300	1 0 10	12 10 0
£300 " £350	1 5 0	15 0 0
£350 " £400	1 9 2	17 10 0
£400 " £450	1 13 4	20 0 0
£450 " £500	1 17 6	22 10 0
£500 " £550	2 1 8	25 0 0
£550 " £600	2 5 10	27 10 0
£600 " £650	2 10 0	30 0 0
£650 " £700	2 14 2	32 10 0
£700 " £750	2 18 4	35 0 0
£750 " £800	3 2 6	37 10 0
£800	3 6 8	40 0 0

When the salary is increased so that it falls in the next higher category in the schedule, the deductions and benefits are also proportionately increased, according to the then present age of the policyholder, by indorsement of the policy.

By regulations under the Act, made by the Governor in Council, dated 8th March, 1894, scales of benefits were adopted. For every £5 annually deducted from the salary in accordance with the schedule already given there is provided a temporary insurance of £100 (constant at all ages at entry), ceasing at age sixty, together with a deferred annuity (varying with the age at entry from £63 11s. 1d. at age fifteen to £10 10s. 5d. at age forty) after the age of sixty. By consenting to a small additional deduction from salary, any officer may have the insurance continued after age sixty to the end of life. Newly-appointed officers who are over forty are allowed the option of acumulating 5 per cent. of their salaries in the Public Trust Office, or of taking out insurances or annuities in the Government Insurance Department.

At the end of 1898 there were 236 Civil Service policies in force, insuring £34,518 (including bonuses), and providing deferred annuities amounting to £9,282. Fourteen policies had been lapsed or surrendered, insuring £2,659 at death, with £579 deferred annuities; three policies, insuring £354, had become claims by death; and the holders of seven policies, insuring £2,513 (with £168 deferred annuities), had left the Civil Service, but elected to continue their policies with the Insurance Department.

These policies, placed in separate tables, are merged in the general business of the Insurance Department, and share in the periodical distributions of profits. At successive valuations the necessary reserve is made to fully cover the liability which has accrued upon each of the contracts, thus avoiding the possibility of any future danger such as has overtaken so many pension schemes administered on unsound principles. Indeed, it may be said that two of the greatest benefits conferred upon the participants in this scheme are the avoidance of fluctuation in the fund through amalgamating with a large insurance institution, and the possession of fixed and irrevocable contracts, clearly defining the benefits to be received at death or by way of pension.

NEW ZEALAND NEWSPAPERS.

There are (March, 1899) 208 publications on the register of newspapers for New Zealand. Of these, 50 are daily papers, 29 are published twice a week, 36 three times a week, 61 once a week, 3 fortnightly, and 29 monthly.

The names of the newspapers, with the postal districts and towns in which they are printed, are given in the following list, the second column showing the day or period of publication.

M. signifies morning paper; E. evening paper:—

AUCKLAND.

Auckland—	
Auckland Evening Star (E.)	**Daily.**
Auckland Weekly News and Town and Country Journal (M)	**Saturday**

Auckland—*continued.*	
Bible Standard (M.)	Monthly.
Christian Worker	„
Church Gazette (M.)	„
New Zealand A B C Guide	Monthly.
New Zealand Farmer, Bee and Poultry Journal (M.)	„
New Zealand Graphic, Ladies' Journal, and Youths' Companion	Wednesday.
New Zealand Herald (M.)	Daily.
New Zealand Illustrated Sporting Review and Licensed Victualler's Gazette (M.)	Thursday.
New Zealand Joyful News	Monthly.
New Zealand Standard (M.)	Monthly.
Observer (M.)	Saturday.
Produce Circular and Monthly Report (M.)	Monthly.
Sharland's Trade Journal	Saturday.
Southern Cross Log (E.)	Monthly.
Coromandel—	
Coromandel County News (E.)	Mon., Wed., Fri.
Dargaville—	
Wairoa Bell and Northern Advertiser (E.)	Tu., Fri.
Hamilton—	
Waikato Argus (M.)	Tu., Th., Sat.
Waikato Times and Thames Valley Gazette (E.)	Daily.
Kawakawa—	
Northern Luminary (E.)	Friday.
Onehunga—	
Weekly Onehunga Independent and District Advertiser (M.)	Saturday.
Rotorua—	
Hot Lakes Chronicle (E.)	Saturday.
Whangarei—	
Northern Advocate (E.)	Friday.

THAMES.

Karangahake—	
Goldfields Advocate and Ohinemuri County Chronicle (M.)	Tu., Th., Sat.
Opotiki—	
Opotiki Herald, Whakatane County and East Coast Gazette (E.)	Tuesday, Friday.
Paeroa—	
Hauraki Tribune and Thames Valley Advertiser (M.)	Tu., Th., Sat.
Ohinemuri Gazette (M.)	Wed., Saturday.
Tauranga—	
Bay of Plenty Times and Thames Valley Warden (E.)	Mon., Wed., Fri.
Te Aroha—	
Te Aroha and Ohinemuri News and Upper Thames Advocate (M.)	Tu., Th., Sat.
Thames—	
Thames Star (E.)	Daily.
Thames Advertiser and Miners' News (M.)	„
Waihi—	
Waihi Miner and Hauraki Goldfield Gazette (E.)	Daily.
Waitekauri—	
Golden Age (E.)	Wed., Sat.
Whakatane—	
Whakatane Times	„

GISBORNE.

Gisborne—	
Poverty Bay Herald (E.)	Daily.
Telephone (M.)	Saturday.

New Plymouth.

Inglewood—	
Record and Waitara Age (M.)	Wed., Saturday.
Weekly Record (M.)	Saturday.
New Plymouth—	
Budget and Taranaki Weekly Herald (M.)	″
Daily News (M.)	Daily.
Taranaki Herald (E.)	″
Taranaki News (M.)	Saturday.
Opunake—	
Opunake Times (E.)	Tuesday, Friday.
Stratford—	
Egmont Post (E.)	Tu., Th., Sat.
Egmont Settler (E.)	Mon., Wed., Fri.
Waitara—	
Waitara Evening Mail and Clifton County Chronicle (E.)	Mon., Wed., Fri.
Waitara Times and Clifton County Gazette (M.)	Mon., Wed., Fri.

Napier.

Dannevirke—	
Bush Advocate (E.)	Tu., Th., Sat.
Morning Press (M.)	Tu., Th., Sat.
Hastings—	
Hastings Standard (E.)	Daily.
Napier—	
Daily Telegraph (E.)	Daily.
Hawke's Bay Herald (M.)	″
New Zealand Fire and Ambulance Record	Monthly.
Waipawa—	
Waipawa Mail (E.)	Tues., Thur., Sat.
Wairoa—	
Wairoa Guardian and County Advocate (M.)	Tuesday, Friday.

Wanganui.

Eltham—	
Eltham Argus and District Advertiser (M.)	Tu., Th., Sat.
Eltham Guardian; Kaponga, Ngaire, Te Roti, Hawera, Stratford, and Cardiff Advertiser (M.)	Tu., Th., Sat.
Hawera—	
Egmont Star (M.)	Saturday.
Hawera and Normanby Star, Patea County Chronicle, and Waimate Plains Gazette (E.)	Daily.
Hawera Morning Post, Patea, Normanby, Eltham, Stratford, Kaponga, Manaia, and Opunake Register (M.)	Tu., Th., Sat.
Hunterville—	
Paraekaretu Express, Hunterville, Ohingaiti, Moawhango, and Rata Advertiser (M.)	Tuesday, Friday.
Manaia—	
Waimate Witness (E.)	Tuesday, Friday.
Mangaweka—	
Mangaweka Settler, and Ohingaiti, Rangiwhaia, Taihape, and Waimarino Advertiser (M.)	Wed., Sat.
Marton—	
Rangitikei Advocate and Manawatu Argus (E.)	Daily.
Patea—	
Patea County Press (E.)	Mon., Wed., Fri.
Raetihi—	
Waimarino Argus and Raetihi, Ohakune, Karioi, Pipiriki, and Upper Wanganui Advocate (M.)	Tuesday.
Wanganui—	
Jubilee (M.)	Tuesday.
Wanganui Chronicle and Patea-Rangitikei Advertiser (M.)	Daily.

Wanganui—*continued.*	
Wanganui Herald (E.)	Daily.
Weekly Chronicle and Patea-Rangitikei Record (M.)	Saturday.
Yeoman (M.)	Friday.

WELLINGTON.

Carterton—	
Wairarapa Leader (E.)	Mon., Wed., Fri.
Wairarapa Observer, Featherston Chronicle, East Coast Advertiser, and South County Gazette (E.)	Tues., Thur., Sat.
Eketahuna—	
Eketahuna Express and North Wairarapa Courier (E.)	Tu., Th., Sat.
Feilding—	
Feilding Star (E.)	Daily.
Foxton—	
Foxton Telegraph and West Coast Advertiser (E.)	Mon., Wed., Fri.
Manawatu Herald (E.)	Tues., Thur., Sat.
Greytown—	
Wairarapa Standard and Featherston Advocate (E.)	Mon., Wed., Fri.
Levin—	
Manawatu Farmer and Horowhenua County Chronicle (E.)	Mon., Wed., Fri.
Masterton—	
Wairarapa Daily Times (E.)	Daily.
Wairarapa Star (E.)	„
Weekly Star and Wellington District Advertiser (M.)	Thursday.
Otaki—	
Otaki Mail and Horowhenua County and West Coast Advertiser (M.)	Tuesday, Friday.
Pahiatua—	
Pahiatua Herald (E.)	Mon., Wed., Fri.
Palmerston North—	
Manawatu Daily Standard, Rangitikei Advertiser, and West Coast Gazette (E.)	Daily.
Manawatu Daily Times (E.)	„
Petone—	
Hutt and Petone Chronicle (M.)	Wednesday.
Wellington—	
Church Chronicle (M.)	Monthly.
Evening Post (E.)	Daily.
Guardian (E.)	Thursday, fortnightly.
New Zealand Craftsman (M.)	Monthly.
New Zealand Cyclists' Touring Club Gazette (M.)	„
New Zealand Dairyman and Dairy Messenger (E.)	„
New Zealand Field (M.)	Friday.
New Zealand Insurance, Finance, and Mining Journal (M.)	Monthly.
New Zealand Mail, Town and Country Advertiser (M)	Friday.
New Zealand Mines Record (M.)	Monthly.
New Zealand Times (M.)	Daily.
Register and Property Investors' Guide	Monthly.
Wellington Price Current and New Zealand Trade Review (M)	Monthly.
Woodville—	
Woodville Examiner (E.)	Mon., Wed., Fri.

BLENHEIM.

Blenheim—	
Marlborough Daily Times and Town and Country Advertiser (M.)	Daily.
Marlborough Express (E.)	„
Havelock—	
Pelorus Guardian and Miners' Advocate (M.)	Tuesday, Friday.

Picton—	
Marlborough Press, County of Sounds Gazette (M.)	Tuesday, Friday.

NELSON.

Brightwater—	
Brightwater Independent Chronicle (M.)	Thursday.
Collingwood—	
Golden Bay Argus (E.)	Thursday.
Nelson—	
Colonist (M.)	Daily.
Nelson Evening Mail (E.)	″
Takaka—	
Takaka News and Collingwood Advertiser (E.)	Thursday.

WESTPORT.

Charleston—	
Charleston Herald, Brighton Times, and Croninville Reporter (M.)	Wed., Saturday.
Murchison—	
Buller Post (E.)	Thursday.
Westport—	
Buller Miner (M.)	Friday.
Westport News (M.)	Daily.
Westport Times and Evening Star (E.)	″

GREYMOUTH.

Brunnerton—	
Brunner News, Blackball Courier, and Grey Valley Advertiser (E.)	Daily.
Greymouth—	
Evening Star and Brunnerton Advocate (E.)	″
Grey River Argus (M.)	″
Weekly Argus (M.)	Weekly.
Reefton—	
Inangahua Herald and New Zealand Miner (M.)	Daily.
Inangahua Times and Reefton Guardian (E.)	″

HOKITIKA.

Hokitika—	
Hokitika Guardian and Evening Star (E.)	Daily.
Leader (M.)	Saturday.
West Coast Times (M.)	Daily.
Kumara—	
Kumara Times and Dillman's and Goldsborough Advertiser (E.)	″
Ross—	
Ross and Okarito Advocate and Westland Advertiser (M.)	Wed., Saturday.

CHRISTCHURCH.

Akaroa—	
Akaroa Mail and Banks Peninsula Advertiser (M.)	Tuesday, Friday.
Ashburton—	
Ashburton Guardian (E.)	Daily.
Ashburton Mail, Rakaia, Mount Somers, and Alford Forest Advertiser (M.)	Tues., Thur., Sat.
Ashburton Standard and Farmers' Advocate (M.)	Mon., Wed., Fri.
Cheviot—	
Cheviot News (M.)	Tues., Fri.
Christchurch—	
Canterbury Times (M.)	Wednesday.
Colonial Inventor	Monthly.

Christchurch—*continued.*	
Lyttelton Times (M.)	Daily.
Mercantile and Bankruptcy Gazette of New Zealand (E.)	Thursday.
New Zealand Baptist	Monthly.
New Zealand Church News (M.)	"
New Zealand Cyclist (M.)	Saturday.
New Zealand Railway Review	Monthly.
New Zealand Schoolmaster (E.)	"
New Zealand War Cry and Official Gazette of the Salvation Army (M.)	Saturday.
New Zealand Wheelman	Wednesday.
Press (M.)	Daily.
Prohibitionist	Fortnightly, Fri.
Spectator (M.)	Wednesday.
Star (E.)	Daily.
Truth (E.)	Daily.
Weekly Press (incorporating the "Referee") (M.)	Wednesday.
Oxford (East)—	
Oxford Observer (M.)	Saturday.
Kaikoura—	
Kaikoura Star and North Canterbury and South Marlborough News (E.)	Tu., Fri.
Rangiora—	
Rangiora Standard and North Canterbury Guardian (M.)	Wed., Saturday.
Southbridge—	
Ellesmere Guardian (M.)	" "

TIMARU.

Geraldine—	
Fairlie Star (M.)	Mon., Wed., Fri.
Geraldine Advocate (M.)	" " "
Pleasant Point Mail (M.)	" " "
Temuka Times (M.)	" " "
Temuka—	
Geraldine Guardian (M.)	Tues., Thur., Sat.
Temuka Leader (M.)	" " "
Timaru—	
South Canterbury Times (E.)	Daily.
South Canterbury Weekly Gazette (M.)	Friday.
Timaru Herald (M.)	Daily.
Waimate—	
Waimate Advertiser (M.)	Saturday.
Waimate Times (M.)	Wed., Saturday.

OAMARU.

Oamaru—	
North Otago Times (M.)	Daily.
Oamaru Mail (E.)	"

DUNEDIN.

Alexandra South—	
Alexandra Herald and Central Otago Gazette (M.)	Thursday.
Balclutha—	
Clutha Leader (M.)	Friday.
Free Press (M.)	"
Clyde—	
Dunstan Times, Vincent County Gazette, and General Goldfields Advertiser (M.)	Friday.
Cromwell—	
Cromwell Argus and Northern Goldfields Gazette (M.)	Tuesday.
Cromwell Times	Weekly.

Dunedin—	
Advocate (M.)	Saturday.
Christian Outlook (M.)	„
Evening Star (E.)	Daily.
Farmers' Circular (M.)	Thur., fortn'ly.
Katipo	Monthly.
New Zealand Tablet (M.)	Friday.
Otago Daily Times (M.)	Daily.
Otago Witness (M.)	Thursday.
Otago Workman, Dunedin and Suburban Advertiser (M)	Saturday.
Phonographic Magazine and Typewriting News	Monthly.
New Zealand Mining Journal and Financial Guide (M.)	„
Schoolmates	„
Temperance Standard	„
Triad (M.)	„
Weekly Budget (M.)	Saturday.
Lawrence—	
Tuapeka Recorder (M.)	Friday.
Tuapeka Times (M.)	Wed., Saturday.
Milton—	
Bruce Herald (M.)	Tuesday, Friday.
Mosgiel—	
Taieri Advocate (M.)	Wed., Saturday.
Naseby—	
Mount Ida Chronicle (E.)	Friday (twice).
Palmerston—	
Palmerston and Waikouaiti Times (M.)	Friday.
Roxburgh—	
Mount Benger Mail (M.)	Saturday.
Tapanui—	
Tapanui Courier and Central Districts Gazette (M.)	Wednesday.

INVERCARGILL.

Arrowtown—	
Lake County Press (E.)	Thursday.
Gore—	
Mataura Ensign (E.)	Tues., Th., Sat.
Southern Standard (M.)	Tuesday, Friday.
Invercargill—	
Southern Cross (M.)	Saturday.
Southlander (M.)	Friday.
Southland Daily News (E.)	Daily.
Southland Times (M.)	„
Weekly Times (M.)	Friday.
Queenstown—	
Lake Wakatipu Mail (E.)	„
Riverton—	
Western Star and Wallace County Gazette (M.)	Tues., Fri.
Winton—	
Winton Record and Hokonui Advocate (M.)	Tues., Fri.
Wyndham—	
Wyndham Farmer (M.)	Mon., Wed., Fri.
Wyndham Herald (M.)	Wed., Friday.

The foregoing towns are arranged according to the postal district in which they are situated.

Taking the provincial districts, Auckland has 37 publications registered as newspapers, Taranaki 11, Hawke's Bay 8, Wellington 46, Marlborough 4, Nelson 12, Westland 9, Canterbury 37, and Otago 44.

THE CUSTOMS TARIFF OF NEW ZEALAND,

Under the Customs and Excise Duties Acts, 1888 and 1895, and "The Tobacco Excise Duties Act, 1896."

TABLE OF DUTIES.

THE headings of the respective classes in this Table and in the Table of Exemptions are used solely for convenience of classification, and shall not in any way affect the articles specified therein, or be construed to indicate the material of which any such article is made.

The word "iron" includes steel, or steel and iron combined.

Neither steam-engines, nor parts of steam-engines, nor steam-boilers (land or marine) are included in the expression "machines" or "machinery" in either this Table or the Table of Exemptions.

The abbreviaton "n.o.e." means not otherwise enumerated.

In computing "ad valorem" duties the *invoice* value of the goods is increased by 10 per cent.

CLASS I.—FOODS AND ARTICLES FOR HUMAN CONSUMPTION.

Names of Articles and Rates of Duty.

1. Almonds, in the shell, 2d. the lb.
2. Almonds, shelled, n.o.e, 3d. the lb.
3. Bacon and hams, 2d. the lb.
4. Biscuits, ships', plain and unsweetened, 3s. the cwt.
5. Biscuits, other kinds, 2d. the lb.
6. Boiled sugars, comfits, lozenges, Scotch mixtures, and sugar-candy, 2d. the lb., including internal packages.
7. Candied peel and drained peel, 3d. the lb.
8. Capers, caraway seeds, catsup, cayenne pepper, chillies, chutney, curry-powder and -paste, fish-paste, gelatine, isinglass, liquorice, olives, 20 per cent. *ad valorem.*
9. Chocolate confectionery, and all preparations of chocolate or cocoa—
   In plain trade packages, 3d. the lb.
   In fancy packages, or in small packages for retail sale, 20 per cent. *ad valorem.*
10. Confectionery, n.o.e., 2d. the lb., including internal packages.
11. Fish, dried, pickled, or salted, n.o.e., 10s. the cwt.
12. Fish, potted and preserved, 2d. the lb., or packages of that reputed weight, and so in proportion for packages of greater or less reputed weight.
13. Fruit, fresh, viz.:—
    Apples, pears, plums, cherries, peaches, nectarines, medlars, apricots, quinces, tomatoes, 1d. the lb.
    (No duty exceeding ½d. the lb. to be levied on apples and pears from 14th July to 31st December.)
    Currants, raspberries, gooseberries, blackberries, and strawberries, ½d. the lb.
    Lemons, ½d. the lb.
14. Fruits, dried, 2d. the lb.
15. Fruits, preserved in juice or syrup, 25 per cent. *ad valorem.*
16. Fruit-pulp, and partially preserved fruit, n.o.e., 1½d. the lb.
17. Fruits preserved by sulphurous acid, 1d. the lb.
18. Glucose, 1d. the lb.
19. Honey, 2d. the lb.
20. Jams, jellies, marmalade, and preserves, 2d. the lb. or packages of that reputed weight, and so in proportion for packages of greater or less reputed weight.
21. Jellies concentrated in tablets or powder, 4d. the lb.
22. Maizena and cornflour, ½d. the lb.
23. Meats, potted or preserved, 20 per cent. *ad valorem.*

24. Milk, preserved, 25 per cent. *ad valorem*.
25. Mustard, 2d. the lb.
26. Nuts of all kinds, except cocoanuts, 2d. the lb.
27. Oysters, preserved, 2d. the lb. or packages of that reputed weight, and so in proportion for packages of greater or less reputed weight.
28. Pearl barley, 1s. the cwt.
29. Peas, split, 2s. the cwt.
30. Pickles, 3s. the imperial gallon.
31. Provisions, n.o.e., 20 per cent., *ad valorem*.
32. Rice and rice-flour, 6s. the cwt.
33. Rice, undressed, and dressed in bond, 4s. the cwt.
34. Salt, except rock-salt, 10s. the ton.
35. Sardines, including the oil, 2d. the lb.
36. Sauces, 4s. the imperial gallon.
37. Spices, including pepper and pimento, unground, 2d. the lb.
38. Spices, including pepper and pimento, ground, 4d. the lb.
39. Sugar, ½d. the lb.
40. Treacle and molasses, ½d. the lb.
41. Vegetables, fresh, dried, or preserved, 20 per cent., *ad valorem*.
42. Vinegar, table, not exceeding 6·5 per cent. of acidity,* 6d. the gallon.

CLASS II.—TOBACCO.

43. Cigarettes, not exceeding in weight 2½lb. per 1,000, 17s. 6d. the 1,000. And for all weight in excess of 2½lb. per 1,000, 6d. the oz.
44. Cigars, 7s. the lb.
45. Snuff, 7s. the lb.
46. Tobacco, 3s. 6d. the lb.
47. Tobacco unmanufactured, entered to be manufactured in the colony in any licensed tobacco manufactory, for manufacturing purposes only, into tobacco, cigars, cigarettes, or snuff, 2s. the lb.

CLASS III.—ALCOHOLIC BEVERAGES, AND MATERIALS FOR MAKING SAME.

48. Ale, beer of all sorts, porter, cider, and perry, the gallon, or for six reputed quart bottles, or 12 reputed pint bottles, 2s. the gallon.
49. Cordials, bitters, and liqueurs, 16s. the liquid gallon.
50. Hops, 6d. the lb.
51. Malt, 2s. the bushel.
52. Rice malt, 1d. the lb.
53. Solid wort, 6d. the lb.
54. Spirits and strong waters, the strength of which can be ascertained by Sykes's hydrometer, 16s. the proof gallon.

    (No allowance beyond 16·5 under proof shall be made for spirits or strong waters of a less hydrometer strength than 16·5 under proof.)
55. Spirits and strong waters, sweetened or mixed, when not exceeding the strength of proof, 16s. the liquid gallon.
56. Spirits and strong waters in cases shall be charged as follows, namely:—

    Two gallons and under, as two gallons; over two gallons and not exceeding three, as three gallons; over three gallons and not exceeding four, as four gallons; and so on for any greater quantity contained in any case.
57. Spirits or strong waters, mixed with ingredients in any proportion exceeding 33 per cent. of proof spirit, and although thereby coming under any other designation, excepting patent or proprietary medicines, or tinctures and medicinal spirits otherwise enumerated, 16s. the liquid gallon.
58. Wine, Australian, containing not more than 35 per cent. of proof spirit verified by Sykes's hydrometer, the gallon, or for six reputed quart bottles, or twelve reputed pint bottles, 5s. the gallon.

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* Vinegar exceeding 6·5 per cent. of acidity to be treated as acetic acid.

59. Wine, other than sparkling and Australian, containing less than 40 per cent. of proof spirit verified by Sykes's hydrometer, the gallon, or for six reputed quart bottles, or twelve reputed pint bottles, 6s. the gallon.
60. Wine, sparkling, 9s. the gallon.

Class IV.—Non-Alcoholic Beverages, and Materials for Making Same.

61. Aërated and mineral waters and effervescing beverages, 20 per cent. *ad valorem.*
62. Chicory, 3d. the lb.
63. Chocolate, 3d. the lb.
64. Cocoa, 3d. the lb.
65. Coffee, essence of, 20 per cent. *ad valorem.*
66. Coffee, raw, 2d. the lb.
67. Coffee roasted, 5d. the lb.
68. Syrups; lime- or lemon-juice sweetened; raspberry vinegar, 25 per cent. *ad valorem.*
69. Tea, 4d. the lb.

Class V.—Drugs, Medicines, Chemicals, and Druggists' Sundries.

70. Acid, acetic, n.o.e., containing not more than 30 per cent. of acidity, 1½d. the lb. For every 10 per cent. of acidity or fraction thereof additional, ½d. the lb.
71. Acid, tartaric, 1d. the lb.
72. Baking-powder, yeast preparations, and other ferments, 20 per cent. *ad valorem.*
73. Chemicals n.o.e., including photographic chemicals and glacial acetic acid, 20 per cent. *ad valorem.*
74. Cream of tartar, 1d. the lb.
75. Drugs and druggists' sundries and apothecaries' wares, n.o.e., 20 per cent. *ad valorem.*
76. Essences, flavouring, spirituous, 15 per cent. *ad valorem* until 1st February, 1896, and thereafter 16s. the liquid gallon.
77. Essences, flavouring, n.o.e., 15 per cent. *ad valorem.*
78. Eucalyptus oil, in bulk or bottle, 20 per. cent. *ad valorem.*
79. Glycerine, refined, 20 per cent. *ad valorem.*
80. Opium, 40s. the lb.
81. Patent medicines, 40 per cent. *ad valorem.*
82. Proprietary medicines, or medicaments, (1) bearing the name of the proprietor on label or package; (2) bearing a prefixed name in the possessive case; (3) n.o.e., prepared by any occult secret or art, 40 per cent. *ad valorem.*
83. Saccharine, except in the form of tabloids or tablets, 1s. 6d. the ounce.
84. Sarsaparilla, 25 per cent. *ad valorem.*
85. Soda, carbonate and bicarbonate, 1s. the cwt.
86. Soda, crystals, 2s. the cwt.
87. Tinctures and medicinal spirits of any recognised pharmacopœia, containing more than 50 per cent. of proof spirit, 1s. the lb.
88. Tinctures and medicinal spirits of any recognised pharmacopœia, containing less than 50 per cent. of proof spirit, 6d. the lb.

Class VI.—Clothing and Textile Goods.

89. Apparel and ready-made clothing, and all articles n.o.e. made up wholly or in part from textile or other piece-goods, 25 per cent. *ad valorem.*
90. Apparel made by British or foreign tailors, dress-, mantle-, or jacket-makers, to the order of residents in the colony, and intended for the individual use of such residents, whether imported by the residents themselves or through an importing firm, 40 per cent. *ad valorem.*
91. Blankets, 20 per cent. *ad valorem.*
92. Collars and cuffs, of paper or other material, 25 per cent. *ad valorem.*
93. Cotton counterpanes, 20 per cent. *ad valorem.*
94. Cotton piece-goods, to include turkey twills, dress prints (hard-spun and plain-woven), where the invoice value does not exceed 4d. the yard; and cotton piece-goods n.o.e., 10 per cent. *ad valorem.*

95. Cotton piece goods—namely, tapestry; cretonnes; chintz art crêpe, and serges; velveteens, velvets, and plushes, all kinds; damasks, moquette; sateens, linenettes; crepons; crimps; zephyrs; ginghams; turkey twills; prints; printed cottons; piqués; vestings; quiltings and marcellas; muslins of all kinds; nets; window-nets; hollands, curtains, and blinds; diapers; ticks, including coloured Belgian; towellings; laces: 20 per cent. *ad valorem.*
96. Drapery n.o.e., 20 per cent. *ad valorem.*
97. Feathers, ornamental (including ostrich), and artificial flowers, 25 per cent. *ad valorem.*
98. Forfar, dowlas, and flax sheeting, n.o.e., 20 per cent. *ad valorem.*
99. Furs, 25 per cent. *ad valorem.*
100. Haberdashery n.o.e., 20 per cent. *ad valorem.*
101. Hats of all kinds, including straw hats, also caps, 25 per cent *ad valorem.*
102. Hosiery n.o.e., 20 per cent. *ad valorem.*
103. Lace, and laces, n.o.e., 25 per cent. *ad valorem.*
104. Millinery of all kinds, including trimmed hats, caps, and bonnets, 25 per cent. *ad valorem.*
105. Ribbons and crape, all kinds, 25 per cent. *ad valorem.*
106. Rugs, woollen, cotton, opossum, or other, 20 per cent. *ad valorem.*
107. Shawls, 20 per cent. *ad valorem.*
108. Silks, satins, velvets, plushes, n.o.e., composed of silk mixed with any other material, in the piece, 25 per cent. *ad valorem.*
109. Textile piece-goods other than cotton or silk, 20 per cent. *ad valorem.*
110. Umbrellas, parasols, and sunshades, 20 per cent. *ad valorem.*
111. Yarns n.o.e., 20 per cent. *ad valorem.*

CLASS VII.—LEATHER AND MANUFACTURES OF LEATHER.

112. Boots, shoes, and slippers, n.o.e; goloshes, clogs, pattens, vamps, uppers, and laces, 22½ per cent. *ad valorem.*
113. Heel-plates, and toe-stiffeners and plates, 22½ per cent. *ad valorem.*
114. Leather—
    Leather belting and belt-leather, harness, bridle, legging, bag, kip (other than East India), 4d. the lb.
    Buff and split, including satin hides and tweeds, 3d. the lb.
    Cordovan, levanted leather, roans, sheepskins, morocco n.o.e., basils, 3d. the lb.
    Sole-leather, 2d. the lb.
    East India kip, Persians, lambskins and goatskins (dressed other than morocco), kangaroo and wallabi skins (dressed), tan and coloured calf, 2d. the lb.
    Leather n.o.e., 1d. the lb.
115. Leather board or compo, 4d. the lb.
116. Leather bags and leather-cloth bags, n.o.e., 20 per cent. *ad valorem.*
117. Leather, chamois, 20 per cent. *ad valorem.*
118. Leather cut into shapes, 22½ per cent. *ad valorem.*
119. Leather leggings, 22½ per cent. *ad valorem.*
120. Leather manufactures n.o.e., 20 per cent. *ad valorem.*
121. Portmanteaux; trunks; travelling-bags and brief-bags of leather or leather-cloth, 10 in. in length and upwards, and carpet-bags, 25 per cent. *ad valorem.*
122. Saddlery and harness, whips and whip-thongs, 20 per cent. *ad valorem.*

CLASS VIII.—FURNITURE AND HOUSEHOLD FURNISHINGS.

123. Basket- and wicker-ware n.o.e., not being furniture, 20 per cent. *ad valorem.*
124. Carpets and druggets; floorcloth; mats and matting, 20 per cent. *ad valorem.*
125. Desks, 20 per cent. *ad valorem.*
126. Furniture and cabinetware, n.o.e., and other than iron, 25 per cent. *ad valorem.*
127. Furniture-, knife-, and plate-powder and polish, 20 per cent. *ad valorem.*
128. Mantelpieces, other than stone, 20 per cent. *ad valorem.*
129. Upholstery n.o.e., 25 per cent. *ad valorem.*

CLASS IX.—CHINA, GLASS, AND EARTHEN GOODS.

130. Bricks, known as firebricks, 20 per cent. *ad valorem.*
131. China, porcelain, and parianware, 20 per cent. *ad valorem.*
132. Drainage pipes and tiles, 20 per cent. *ad valorem.*
133. Earthen flooring and garden tiles, 20 per cent. *ad valorem.*
134. Earthenware, stoneware, and brownware, 20 per cent. *ad valorem.*
135. Filters, 20 per cent. *ad valorem.*
136. Fireclay, ground, and fireclay goods, 20 per cent. *ad valorem.*
137. Glass, crown, sheet, and common window, 2s. the 100 superficial feet.
138. Glassware; also plate-glass, and glass polished, coloured, and other kinds n.o.e.; globes and chimneys for lamps, 20 per cent. *ad valorem.*
139. Lamps, lanterns, and lamp-wick, 20 per cent. *ad valorem.*
140. Plate-glass, bevelled or silvered; mirrors and looking-glasses, framed or unframed, 25 per cent. *ad valorem.*

CLASS X.—FANCY GOODS, MUSICAL INSTRUMENTS, ETC.

141. Artificial flies, 25 per cent. *ad valorem.*
142. Cards, playing, 6d. per pack.
143. Clocks, 20 per cent. *ad valorem.*
144. Dressing-cases, 20 per cent. *ad valorem.*
145. Fancy goods, and toys, 20 per cent. *ad valorem.*
146. Fishing tackle, including artificially-baited hooks other than flies, 20 per cent. *ad valorem.*
147. Jewellery; plate, gold or silver; greenstone, cut or polished: 20 per cent. *ad valorem.*
148. Mouldings in the piece, for picture-frames, cornices, or ceilings, 15 per cent. *ad valorem.*
149. Musical instruments of all kinds n.o.e., 20 per cent. *ad valorem.*
150. Oil, perfumed, 25 per cent. *ad valorem.*
151. Papier-maché ware, 20 per cent. *ad valorem.*
152. Perfumery n.o.e., 25 per cent. *ad valorem.*
153. Perfumed spirits and Cologne-water; £1 1s. the liquid gallon until the 1st February, 1896, and thereafter £1 10s. the liquid gallon.
154. Photographic goods n.o.e., 20 per cent. *ad valorem.*
155. Pictures, paintings, drawings, engravings, and photographs, framed or unframed; picture- or photograph-frames and -mounts, 20 per cent. *ad valorem.*
156. Platedware, 20 per cent. *ad valorem.*
157. Statues, statuettes, casts, and bronzes, 20 per cent. *ad valorem.*
158. Tobacco-pipes and cases, cigar- and cigarette-holders and cases, cigarette-papers and -cases, 25 per cent. *ad valorem.*
159. Toilet preparations n.o.e., 25 per cent. *ad valorem.*
160. Watches, 20 per cent. *ad valorem.*
161. Walking-sticks, 20 per cent. *ad valorem.*

CLASS XI.—PAPER MANUFACTURES AND STATIONERY.

162. Calendars and show-cards, all kinds, 25 per cent. *ad valorem.*
163. Cardboard boxes complete, or cardboard cut and shaped for boxes (including match-boxes), 25 per cent. *ad valorem.*
164. Directories of New Zealand, or of any part thereof; also covers for directories, 25 per cent. *ad valorem.*
165. Handbills, programmes, and circulars, playbills and printed posters, 20 per cent. *ad valorem.*
166. Ink, writing, 20 per cent. *ad valorem.*
167. Paper bags, coarse (including sugar-bags), 7s. 6d. the cwt.
168. Paper bags n.o.e., 25 per cent. *ad valorem.*
169. Paper-hangings, 15 per cent. *ad valorem.*
170. Paper, wrapping—viz., blue candle, glazed cap, glazed casings, small hand, lumber hand, and tissue, 5s. the cwt.

171. Paper, wrapping, other kinds, including brown, cartridge, and sugar papers, 5s. the cwt.
172. Printed matter relating to patent or proprietary medicines; trade catalogues, price-lists, and fashion-plates of the goods of firms or persons in the colony, 25 per cent. *ad valorem.*
173. Stationery and writing paper n.o.e., 20 per cent. *ad valorem.*
174. Stationery, manufactured—viz., account-books; manuscript books; bill-head, invoice, and statement forms; printed or ruled paper; counter-books; cheque- and draft-forms; tags; labels; blotting-pads; sketch-books; book covers; copying letter-books; manifold writers; albums (other than for photographs); diaries; birthday-books; plain or faint-lined ruled books; printed window-tickets; printed, lithographed, or embossed stationery; and Christmas, New Year, birthday, and Easter cards and booklets: 25 per cent. *ad valorem.*
175. Stereotypes and matrices, 25 per cent. *ad valorem.*

Class XII.—Manufactures of Metal.

176. Bicycles, tricycles, and the like vehicles; also finished or partly finished or machined parts of same, n.o.e., including weldless steel tubing cut to short lengths, 20 per cent. *ad valorem.*
177. Boilers, land and marine, 20 per cent. *ad valorem.*
178. Brass cocks, valves, unions, lubricators, and whistles, 20 per cent. *ad valorem.*
179. Brass manufactures n.o.e, 20 per cent. *ad valorem.*
180. Cartridges (shot), 10- to 24-bore, 1s. 6d. the 100.
181. Cartridge-cases, 9d. the 100.
182. Cartridges, n.o.e., 20 per cent. *ad valorem.*
183. Cash-registering machines, 10 per cent. *ad valorem.*
184. Coffin-furniture, 20 per cent. *ad valorem.*
185. Composition-piping, 3s. 6d. the cwt.
186. Copper manufactures n.o.e., 20 per cent. *ad valorem.*
187. Copying-presses, 20 per cent. *ad valorem.*
188. Crab-winches, cranes n.o.e., capstans, and windlasses, 20 per cent. *ad valorem.*
189. Cutlery, 20 per cent. *ad valorem.*
190. Firearms, all kinds, 20 per cent. *ad valorem.*
191. Galvanised-iron manufactures n.o.e., 25 per cent. *ad valorem.*
192. Gasometers, and other apparatus for producing gas; also gas-meters, 10 per cent. *ad valorem.*
193. Gaspipes, iron, 5 per cent. *ad valorem.*
194. Hardware, ironmongery, and holloware, 20 per cent. *ad valorem.*
195. Iron bridges, and iron material, n.o.e., for the construction of bridges, wharves, jetties, or patent slips, 20 per cent. *ad valorem.*
196. Iron columns for buildings, and other structural ironwork, 20 per cent. *ad valorem.*
197. Iron doors for safes and vaults, 20 per cent. *ad valorem.*
198. Iron, galvanised corrugated sheets, screws, and nails, 2s. the cwt.
199. Iron galvanised tiles, ridging, guttering, and spouting, 20 per cent. *ad valorem.*
200. Iron gates and gate-posts, staples, standards, straining posts and apparatus, 20 per cent. *ad valorem.*
201. Iron nails, 2s. the cwt.
202. Iron pipes, and fittings for same, including main-cocks, 5 per cent. *ad valorem.*
203. Iron, plain galvanised sheet and hoop, 1s. 6d. the cwt.
204. Iron tanks, exceeding 200 gallons and not exceeding 400 gallons, 10s. each.
205. Iron tanks, of and under 200 gallons, 5s. each.
206. Iron-work and wire-work, 20 per cent. *ad valorem.*
207. Japanned and lacquered metal ware, 25 per cent. *ad valorem.*

208. Lawn-mowers, 20 per cent. *ad valorem.*
209. Lead, in sheets, 1s. 6d. the cwt.
210. Lead piping, 3s. 6d. the cwt.
211. Machinery, n.o.e., 20 per cent. *ad valorem.*
212. Machinery, electric, and appliances, 10 per cent. *ad valorem.*
213. All machinery for agricultural purposes, including chaff-cutters, corn-crushers, corn-shellers, also articles used in manufacturing the same—namely, chaff-cutting knives, tilt-rakes, fittings for threshing-mills, forgings for ploughs; but excluding reapers and binders, 5 per cent. *ad valorem.*
214. Machinery for dairying purposes (excluding separators and coolers), 5 per cent. *ad valorem.*
215. Machinery for flour-mills, woollen-mills, paper-mills, rope- and twine-making, dredging, saw-milling, planing, and wood-working (including lathes), oil-refining, boring, and also machinery for refrigerating or preserving meat, leather-splitting machines, and band-knives for same, 5 per cent. *ad valorem.*
216. Machinery for stamping and blocking tin, 5 per cent. *ad valorem.*
217. Machinery of every description for mining purposes, including machine pumps, but excluding machinery for gold-saving purposes and processes, 5 per cent. *ad valorem.*
218. Manufactures, n.o.e., of metal, or of metal in combination with any other material, 20 per cent. *ad valorem.*
219. Nails n.o.e., 3s. the cwt.
220. Portable engines on four or any greater number of wheels, with boilers of locomotive type; also traction-engines, 5 per cent. *ad valorem.*
221. Printing machines and presses, 5 per cent. *ad valorem.*
222. Pumps and other apparatus for raising water n.o.e., 20 per cent. *ad valorem.*
223. Railway and tramway plant and materials n.o.e., 20 per cent. *ad valorem.*
224. Sad-irons, 20 per cent. *ad valorem.*
225. Shot, 10s. the cwt.
226. Soda-water machines; also machines for aërating liquids, 5 per cent. *ad valorem.*
227. Steam-engines and parts of steam-engines n.o.e., 20 per cent. *ad valorem.*
228. Steam-engines and parts thereof (including the boiler or boilers therefor), imported specially for mining and dairying purposes, 5 per cent. *ad valorem.*
229. Tinware, and tinsmiths' furniture, n.o.e., 25 per cent. *ad valorem.*
230. Waterworks pipes, iron, 5 per cent. *ad valorem.*
231. Weighbridges and weighing-machines, 20 per cent. *ad valorem.*
232. Wire mattresses and webbing, 20 per cent. *ad valorem.*
233. Zinc tiles, ridging, guttering, piping, 20 per cent. *ad valorem.*
234. Zinc manufactures n.o.e., 25 per cent. *ad valorem.*

CLASS XIII.—TIMBER AND ARTICLES MADE FROM TIMBER.

235. Bellows, other than forge, 20 per cent. *ad valorem.*
236. Blocks, wooden tackle, 20 per cent. *ad valorem.*
237. Buckets and tubs, of wood, 20 per cent. *ad valorem.*
238. Carriages, carts, drays, wagons and perambulators, and wheels for the same, 20 per cent. *ad valorem.*
239. Carriage shafts, spokes, and felloes, dressed: bent carriage timber n.o.e., 20 per cent. *ad valorem.*
240. Doors, glazed with ornamental glass, 4s. each.
241. Doors, plain, 2s. each.
242. Sashes, glazed with ornamental glass, 4s. the pair.
243. Sashes, plain, 2s. the pair.
244. Timber, palings, 2s. the 100.
245. Timber, posts, 8s. the 100.
246. Timber, rails, 4s. the 100.

247. Timber, sawn, dressed, 4s. the 100 ft. superficial.
248. Timber, sawn, rough, 2s. the 100 ft. superficial.
249. Timber, shingles and laths, 2s. the 1,000.
250. Woodenware and turnery n.o.e., and veneers, 20 per cent. *ad valorem.*

Class XIV.—Oils, Paints, etc.

251. Axle-grease and other solid lubricants, 20 per cent. *ad valorem.*
252. Harness oil and composition, and leather dressing, 20 per cent. *ad valorem.*
253. Naphtha, 6d. the gallon.
254. Oil, kerosene, 6d. the gallon.
255. Oil, linseed, 6d. the gallon.
256. Oil, mineral, including shale-waste or unrefined mineral-oil n.o.e., 6d. the gallon.
257. Oil, n.o.e., 6d. the gallon.
258. Oil, olive, in bulk, 6d. the gallon.
259. Oil vegetable, in bulk, n.o.e., 6d. the gallon.
260. Oil, vegetable or other, in bottle, 15 per cent. *ad valorem.*
261. Paints and colours ground in oil or turpentine, 2s. 6d. the cwt.
262. Paints and colours mixed ready for use, 5s. the cwt.
263. Putty, 2s. the cwt.
264. Stearine, 1½d. the lb.
265. Varnish, enamel paints, gold size, 2s. the gallon.
266. Whiting and chalk, 1s. the cwt.

Class XV.—Agricultural and Farm Products, etc.

267. Animals, food for, of all kinds, n.o.e., 20 per cent. *ad valorem.*
268. Cattle (horned), 10s. each.
269. Chaff, £1 the ton.
270. Grain—namely, barley, 2s. the 100 lb.
271. Grain and pulse of every kind n.o.e., 9d. the 100 lb.
272. Grain and pulse of every kind, when ground or in any way manufactured, n.o.e., 1s. the 100 lb.
273. Horses, £1 each.
274. Linseed, £1 the ton.
275. Maize, 9d. the 100 lb.
276. Onions, £1 the ton.
277. Prepared calf-meal, £1 5s. the ton.

Class XVI.—Miscellaneous.

278. Bags, flour, 20 per cent. *ad valorem.*
279. Bags, calico, forfar, hessian, and linen, 20 per cent. *ad valorem.*
280. Bagging and bags n.o.e., 15 per cent. *ad valorem.*
281. Blacking and boot-gloss, 20 per cent. *ad valorem.*
282. Blacklead, 20 per cent. *ad valorem.*
283. Blue, 2d. the lb.
284. Brooms, brushes, and brushware n.o.e., 25 per cent. *ad valorem.*
285. Brushes, hair, and combs; toilet, clothes, and hat brushes, 20 per cent. *ad valorem.*
286. Candles, 2d. the lb. or package of that reputed weight, and so in proportion for packages of greater or less reputed weight.
287. Cement, 2s. the barrel.
288. Cordage and rope n.o.e., 20 per cent. *ad valorem.*
289. Cork, cut, including bungs, 20 per cent. *ad valorem.*
290. Fireworks n.o.e., 20 per cent. *ad valorem.*
291. Flock, 10 per cent. *ad valorem.*
292. Glue and size, 1½d. the lb.

293. Granite, sawn on not more than two sides, and not dressed or polished, 5 per cent. *ad valorem*.
294. Marble, granite, and other stone, dressed or polished, and articles made therefrom, including mantelpieces, 25 per cent. *ad valorem*.
295. Matches—
    Wooden, in boxes containing not more than 60 matches, 1s. the gross of boxes.
        In boxes containing over 60 and not more than 100 matches, 2s. the gross of boxes.
        In boxes containing more than 100 matches, for every 100 matches or fraction thereof contained in one box, 2s. the gross of boxes.
    Wax, "plaid vestas" in cardboard boxes containing under 100 matches, 1s. 2d. the gross of boxes.
        "Pocket vestas" in tin or other boxes containing under 100 matches, 1s. 9d. the gross of boxes.
        "Sportsman's," "Ovals," and "No. 4 tin vestas" in boxes containing not more than 200 matches, 5s. the gross of boxes.
        Other kinds, for every 100 matches or fraction thereof contained in one box, 2s. 6d. the gross of boxes.
296. Nets and netting, 20 per cent. *ad valorem*.
297. Powder, sporting, 6d. the lb.
298. Rice, manufactured into starch in bond, 2s. the cwt.
299. Sacks, other than cornsacks and jute sacks, 15 per cent. *ad valorem*.
300. Sausage-skins and casings (including brine or salt), 3d. the lb.
301. Soap, common yellow and blue mottled, 5s. the cwt.
302. Soap n.o.e. 25 per cent. *ad valorem*.
303. Soap-powder, extract of soap, dry soap, and soft-soap, 20 per cent. *ad valorem*.
304. Spirits, methylated, 1s. the liquid gallon.
305. Spirits, cleared from warehouse, methylated under prescribed conditions, 6d. the liquid gallon.
306. Starch, 2d. the lb.
307. Tarpaulins, tents, rick- and wagon-covers, 20 per cent. *ad valorem*.
308. Twine, n.o.e., 20 per cent. *ad valorem*.
309. Washing-powder, 20 per cent. *ad valorem*.
310. Wax, paraffin, mineral, vegetable, and Japanese, 1½d. the lb.
    In addition to any duty chargeable by law on any goods imported into the colony, a further duty of 20 per cent. *ad valorem* shall be charged when the goods are prison-made.

TABLE OF EXEMPTIONS FROM DUTIES OF CUSTOMS.

CLASS I.—FOODS, ETC.

Names of Articles.

311. Almonds, Barbary, Sicily, and French, used in confectioners' manufactures.
312. Anchovies, salted, in casks.
313. Arrowroot, sago, tapioca, macaroni, vermicelli, and prepared groats.
314. Rock salt.

CLASS IV.—NON-ALCOHOLIC BEVERAGES, ETC.

315. Cocoa-beans.

CLASS V.—DRUGS, ETC.

316. Acids—viz.: boracic; carbolic, in bulk; fluoric; muriatic; nitric; oxalic; oleic; pyrogallic; salicylic; sulphuric.
317. Concentrated extracts, or essences in liquid form or preserved in fat for perfume-manufacturing purposes in manufacturing warehouses, in bottles of not less than 1 lb. in weight.

318. Disinfectants.
319. Drugs and chemicals—viz.: alum; sulphate of aluminium; sulphate of ammonia; anhydrous ammonia; aniline dyes; arsenic, bluestone, or sulphate of copper; borax; catechu; chloride of calcium; nitrate of silver; cochineal; creosote, crude or commercial; glycerine, crude; gum, arabic and tragacanth; gum benzoin; artificial gum arabic; gum damar; phosphorus; potash, caustic potash, and chlorate of potash; pearlash; cyanide of potassium; sal-ammoniac; saltpetre; acetate of soda, crude; soda-ash; caustic soda; nitrate of soda; silicate of soda, sulphate of soda; sulphide of sodium; strychnine; sulphur; chloride of zinc; iron-sulphates; gall-nuts; turmeric; saffron; nitrous-oxide gas; tree washes; insecticides; maltine; chlorodyne.
320. Essential oils, except eucalyptus; cod-liver oil; oil of rhodium.
321. Horse-drenches.
322. Medicinal barks, leaves, herbs, flowers, roots, and gums.
323. Scrub-exterminator.
324. Sheep-dip; sheep-drenches; sheep-licks.
325. Surgical and dental instruments and appliances.
326. Scientific and assay balances, retorts, flasks, and other appliances for chemical analysis and assay work.
327. Water-hardening chemicals for brewers' use.

CLASS VI.—CLOTHING AND TEXTILES.

328. Accoutrements for military purposes, excepting uniform clothing.
329. Brace-elastic and brace mountings.
330. Bunting, in the piece.
331. Butter- and cheese-cloth.
332. Buttons, tapes, wadding, pins, needles.
333. Calico, white and grey, also cotton sheetings, in the piece.
334. Corduroy, moleskin, and plain beaverskin, of cotton, in the piece.
335. Coloured cotton shirtings; flannelette shirtings.*
336. Forfar, dowlas, and flax sheeting, when cut up under supervision in sizes not exceeding 47 in. x 36 in. for making flour-bags, and not exceeding 54 in. for lining wool mats.
337. Fur-skins, green or sun-dried.
338. Gold or silver lace or braid for military clothing.
339. Hatmaker's materials—viz.: silk plush; felt hoods; shellac; galloons; calicoes; spale-boards for hat-boxes; leathers and linings; blocks; moulds; frames; ventilators; and tassels.
340. Hessians, plain or striped, and scrim.
341. Leather-cloth.
342. Minor articles (required in the making-up of apparel, boots, shoes, hats, caps, saddlery, umbrellas, parasols, and sunshades), enumerated in any order of the Commissioner, and published in the *Gazette*.
343. Sailcloth, canvas, and unbleached double-warped duck, in the piece.
344. Sewing cottons, silks, and threads; crotchet, darning, and knitting cottons; angola mendings not exceeding 45 yards, on cards.
345. Silk for flour-dressing.
346. Silk twist (shoemakers' and saddlers').
347. Staymakers' binding, eyelets, corset-fasteners, jean, ticks, lasting, sateen, and cotell.
348. Tailors' trimmings—viz.: plain-coloured imitation hair-cloth; canvas; plain Verona and plain diagonal, and such patterns of checked Italian cloth as may be approved of by the Commissioner of Customs; Italian cloth of cotton or wool; buckram; wadding and padding; silk, worsted, and cotton bindings and braids; stay-bindings; Russia braids; shoulder-pads; buckles; silesias; drab, slate, and brown jeans; pocketings; slate, black, and brown dyed unions and linens.

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* See note on next page.

349. Umbrella-makers' materials—viz.: reversible and levantine silk mixtures, gloria, and satin de chêne of not less than 44 in. in width; alpaca cloth, with border; zanella cloth, with border; also other piece-goods on such conditions as the Commissioner may approve; sticks, runners, notches, caps, ferrules, cups, ribs, stretchers, tips, and rings.
350. Union shirtings the invoice value of which does not exceed 6d. the yard.*
351. Waterproof material in the piece.

CLASS VII.—LEATHER, AND ARTICLES USED IN LEATHER MANUFACTURES.

352. Boot-elastic.
353. Bootmakers' linings, canvas, plain or coloured, bag and portmanteau linings, of such materials, qualities, and patterns as may be approved by the Commissioner.
354. Boots, shoes, and slippers—viz., children's, Nos. 0 to 3.
355. Cork soles, and sock soles.
356. East India kip, crust or rough-tanned, but undressed.
357. Goatskins, crust or rough-tanned, but undressed.
358. Grindery, except heel- and toe-plates.
359. Hogskins.
360. Kangaroo-, wallabi-skins, undressed.
361. Leather, japanned or enamelled; goatskins, dressed as morocco, coloured (other than black).
362. Saddle-trees.
363. Saddlers' ironmongery (except bits and stirrup-irons), hames, and mounts for harness; straining, surcingle, brace, girth, and roller-webs; collar-check, and the same article plain, of such quality as may be approved by the Commissioner; legging-buckles.
364. Tanning materials, crude.

CLASS VIII.—FURNITURE, ETC.

365. Blind-webbing and tape.
366. Upholsterers' webbing, hair-seating, imitation hair-seating, curled hair; gimp and cord, of wool, cotton, or silk; tufts and studs.

CLASS IX.—CHINA, GLASS, ETC.

367. Bottles, empty, plain glass, not being cut or ground; also jars up to 3 in. in diameter at the mouth.
368. Glass plates (engraved) for photo-lithographic work.
369. Jars or other dutiable vessels, containing free goods or goods subject to a fixed rate of duty, and being ordinary trade packages for the goods contained in them.

CLASS X.—FANCY GOODS, ETC.

370. Action-work and keys, in frames or otherwise, for manufacture of organs, harmoniums, and pianos; organ-pipes and stop knobs.
371. Artists' canvas, colours, brushes, and pallet-knives.
372. Magic-lanterns, lenses, and slides.
373. Microscopes and astronomical telescopes, and lenses for same.
374. Musical instruments, specially imported for Volunteer bands.
375. Paintings, statuary, and works of art, presented to or imported by any public institution or art association registered as a body corporate, for display in the buildings of such institution or association, and not to be sold or otherwise disposed of.

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* Whenever any dispute arises as to the application of the exemption in favour of coloured cotton, flannelette, or union shirtings, in the case of fabrics alleged to be such shirtings, the Commissioner has power to decide such dispute: and in case of doubt on his part, he may require the fabric in dispute to be cut up for shirt-making, under such conditions as he prescribes.

376. Photographic cameras and lenses.
377. Photographs of personal friends in letters or packets.
378. Precious stones, cut or uncut and unmounted.
379. Sensitized surfaces for photographic purposes.

Class XI.—Paper, etc.

380. Bookbinders' materials—viz., cloth, leather, thread, headbands, webbing, end-papers, tacketing-gut, marbling-colours, marble-paper, blue-paste for ruling-ink, staple-presses, wire-staples, staple-sticks.
381. Butter-paper, known as parchment paper or waxed paper.
382. Cardboard and pasteboard, of sizes not less than that known as "royal."
383. Cardboard boxes, materials for—viz., gold and silver paper, plain and embossed, gelatine and coloured papers, known as "box-papers."
384. Cartridge paper, for drawing-books.
385. Cloth-lined boards, not less than "royal."
386. Cloth-lined papers; enamelled-paper; ivorite and gelatine; metallic paper, not less than "demy."
387. Copy-books and drawing-books.
388. Copying-paper, medium and double-foolscap, in original mill wrappers and labels.
389. Hand-made cheque-paper.
390. Ink, printing.
391. Masticated para.
392. Millboard and bookbinders' leather-board.
393. Paper, hand-made or machine-made book or writing, of sizes not less than the size known as "demy," when in original wrappers.
394. Printing-paper.
395. Printed books, papers, and music n.o.e.
396. School slates, and educational apparatus.

Class XII.—Metals.

397. Anchors.
398. Artificers' tools.
399. Axes and hatchets; spades, shovels, and forks; picks; mattocks; quartz and knapping-hammers; scythes, sheep-shears, reaping-hooks; soldering-irons, paperhangers' scissors; butchers' saws and cleavers.
400. Axles, axle-arms, and boxes.
401. Band-saws and folding-saws, including frames.
402. Bellows nails.
403. Bicycles and tricycles, fittings for—viz., rubber-tires, pneumatic-tires, outside covers, and inner tubes; rubber and cork handles, and pedal-rubbers; also drop-forgings and stampings, ball-bearings, weldless steel tube in full lengths, rims, forks, and spokes, in the rough.
404. Blacksmiths' anvils, forges, and fans.
405. Bolts, 5in. by ½in. in diameter, and under, and nuts for same.
406. Brass and copper, in pigs, bars, tubes, or sheets.
407. Brass tubing and stamped work, in the rough, for gasaliers and brackets.
408. Caps, percussion.
409. Card-clothing for woollen-mills.
410. Chains, trace and plough chains; or metal articles required to repair or complete riding or driving harness or saddlery to be repaired or made in the colony.
411. Copper and composition rod, bolts, sheathing, and nails.
412. Couch-roll jackets, machine-wires, beater-bars, and strainer-plates for paper-mills.
413. Crucibles.
414. Emery-grinding machines and emery-wheels.
415. Empty iron drums, not exceeding 10 gallons capacity.
416. Engineers' machine tools.
417. Eyelets.

418. Fire-engines, including Merryweather's chemical fire-engines.
419. Fish-hooks.
420. Galvanising-baths, welded.
421. Gas-engines and hammers, and oil-engines.
422. Glassmakers' moulds.
423. Hydraulic cranes.
424. Iron- and brass-wove wire and wire-gauze; also wire netting.
425. Iron boiler-plates and unflanged end-plates for boilers; boiler-tubes not exceeding 6in. in diameter, and unflanged; Bowling's expansion rings; furnace-flues.
426. Iron, plain black sheet, rod, bolt, bar, plate, hoop, and pig.
427. Iron rolled girders.
428. Iron plates, screws, and castings for ships.
429. Iron wire n.o.e., including fencing-wire, plain and barbed.
430. Lead, in pigs and bars.
431. Locomotives.
432. Machine saws.
433. Machinery for gold-saving purposes and processes.
434. Metal fittings for trunks, portmanteaux, travelling-bags, leggings, bags, and satchels.
435. Metal sheaves for blocks.
436. Metallic capsules.
437. Perambulators and the like vehicles, fittings for, n.o.e.
438. Perforated or cellular sheet zinc or iron.
439. Printing type and materials n.o.e.
440. Rails for railways and tramways.
441. Reapers and binders, and reaping and mowing machines, and extra parts for same; materials for manufacturing agricultural machinery—namely, reaper-knife sections, fingers, brass and steel springs, malleable castings, discs for harrows, mould-boards and plough-shares, mould-board plates, and steel share-plates cut to pattern, skeith-plates; ploughs and harrows; combined threshers.
442. Riddles and sieves.
443. Rivets and washers.
444. Separators and coolers for dairying purposes.
445. Set-screws, engineers' studs, and split-pins.
446. Sewing-, knitting-, and kilting-machines.
447. Spiral springs (except sofa- and mattress-springs).
448. Steam and hydraulic pressure and vacuum gauges.
449. Surveyors' steel bands and measuring-tapes.
450. Swords.
451. Tacks of all kinds.
452. Tea-packing lead.
453. Tin, in pigs, bars, or sheets.
454. Tinsmiths' fittings, including stamped or blocked tin, planished or unplanished.
455. Tins, tops of, ornamented.
456. Wire, of brass, copper, or lead.
457. Zinc, plain sheet.
458. Zinc plates and copper plates for photo-lithographic work.

CLASS XIII.—TIMBER, ETC.

459. Ash, hickory, and lancewood timber, unwrought.
460. Blacksmiths' bellows.
461. Brush woodware.
462. Carriage- and cart-shafts, spokes and felloes in the rough; hubs, all kinds; poles if unbent and unplaned, all kinds; bent wheel-rims.
463. Carriage- and cart-makers' materials—viz., springs, mountings, trimmings, brass hinges, tire-bolts, shackle-holders, step treads, and other iron fittings (except steps, lamp-irons, dash-irons, seat-rails, and fifth wheels), rubber-cloth.

464. Churns.
465. Lignum-vitæ.
466. Sieves, hair.
467. Wooden handles for tools.

CLASS XIV.—OILS, ETC.

468. Benzine in bulk.
469. Oils—viz., candlenut, fish, whale, seal, penguin, and palm.
470. Paints and colours n.o.e.
471. Shale oil, once run, suitable for gas-making.
472. Spirits of tar.
473. Turpentine, driers, and terebene.

CLASS XV.—MISCELLANEOUS.

474. Apparatus and appliances solely for teaching purposes, as may be approved by the Commissioner.
475. Belting for machinery, other than leather.
476. Binder-twine.
477. Bricks, other than fire-bricks.
478. Building materials n.o.e.
479. Brushes for cream-separators and combined screens.
480. Candlenuts and candlenut kernels.
481. Candlewick.
482. Canvas aprons and elevators for reapers and binders.
483. Carpenters' baskets.
484. Charts and maps.
485. Cotton waste.
486. Dye-stuffs and dyeing materials, crude.
487. Felt sheathing.
488. Food preservative n.o.e.
489. Gum boots.
490. Hawsers of 12 in. and over.
491. Honey and brown Windsor soap composition.
492. Iron and steel cordage.
493. Jute bagging, bags, and sacks.
494. Manures.
495. Marble and other stone, hewn or rough-sawn, not dressed or polished.
496. Netmakers' cotton twine.
497. Official supplies for consular officers of countries where a similar exemption exists in favour of British Consuls.
498. Papermakers' felts.
499. Passengers' baggage and effects, including only wearing apparel and other personal effects that have been worn or are in use by persons arriving in the colony; also implements, instruments, and tools of trade, occupation, or employment of such persons; and household or other effects not exceeding £100 in value, which have been in use for twelve months prior to embarkation by the persons or families bringing them to the colony, and not intended for any other person or persons or for sale; also cabin furnishings belonging to such persons.
500. Plaster of Paris.
501. Powder, blasting and meal.
502. Ship-chandlery n.o.e.
503. Ships' rockets, blue-lights, and danger-signals.
504. Spirits for manufacturing perfumed spirit, flavouring essences, and culinary essences in manufacturing warehouses.*
505. Stones, mill, grind, oil, and whet.

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* This exemption ceased on the 1st day of February, 1896.

506. Tobacco for sheepwash or for insecticide, after being rendered unfit for human consumption to the satisfaction of the Commissioner.
507. Treacle or molasses, mixed with bone-black in proportions to the satisfaction of the Commissioner.
508. Tubular woven cotton-cloth in the piece, for meat-wraps.
509. Type-writers.
510. Wax, bottling.
511. Woolpacks and woolpockets.
512. Yarn—viz., coir, flax, hemp.
513. Articles and materials (as may from time to time be specified by the Commissioner) which are suited only for, and are to be used solely in, the fabrication of goods within the colony. All decisions of the Commissioner in reference to articles so admitted free to be published from time to time in the *Gazette*.
514. And all articles not otherwise enumerated.

TABLE OF EXCISE DUTIES.

515. Tobacco, 1s. in the lb.*
516. Cigars, cigarettes, and snuff, 1s. 6d. the lb.*
517. Beer, 3d. the gallon.
518. Articles in which spirit is a necessary ingredient, manufactured in a warehouse appointed under section 26 of "The Customs Laws Consolidation Act, 1882," namely,—
    Pharmacopœia tinctures, essences, extracts, and medicinal spirits containing more than 50 per cent. of proof spirit, 9d. the lb.
    Pharmacopœia tinctures, essences, extracts, and medicinal spirits containing less than 50 per cent. of proof spirit, 3d. the pound.
    Culinary and flavouring essences, 12s. the liquid gallon, from 1st February, 1896.
    Perfumed spirit, 20s. the liquid gallon, from 1st February, 1896.
    Toilet preparations which are subject to 16s. the liquid gallon on importation, 12s. the liquid gallon.
    Toilet preparations which are subject to 25 per cent. duty on importation, 6s. the liquid gallon.

DUTIES IMPOSED BY HIS EXCELLENCY THE GOVERNOR UNDER SECTION 17 OF "THE CUSTOMS AND EXCISE DUTIES ACT, 1888."

519. Olive stones, ground (see *New Zealand Gazette*, 15th May, 1890), 4d. the lb.
520. Brewers' caramel (see *New Zealand Gazette*, 21st August, 1890), 3d. the lb.
521. Liquid hops (see *New Zealand Gazette*, 21st December, 1893), 6s. the lb.
522. The United Asbestos Patent Salamander Decorations (see *New Zealand Gazette*, 14th May, 1896), 15 per cent. *ad valorem*.

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* "The Tobacco Excise Duties Act, 1896," section 2, enacts:—

"On and after the thirty-first day of December, one thousand eight hundred and ninety-six, section three of "The Customs and Excise Duties Act, 1891," shall be deemed to be repealed, and in lieu of the duties imposed by that section there shall be levied, collected, and paid, on and after that day, upon tobacco manufactured in the colony, at the time of making the entry for home consumption thereof, the several duties of excise following, that is to say,—

"On tobacco	... One shilling the pound,
"On cigars and snuff	... One shilling and sixpence the pound.
"On cigarettes—	
If manufactured by machinery ...	... Two shillings and sixpence the pound.
If made by hand	... One shilling the pound."

PART II.—STATISTICAL INFORMATION.

[The progress of the colony from the beginning is shown in the statistical broadsheets which follow the General Index.]

SECTION I.—POPULATION.

The estimated population of New Zealand on the 31st December, 1898, with the increase for the year, is shown below:

	Persons.	Males.	Females.
Estimated population (exclusive of Maoris) on 31st December, 1897	729,056	384,703	344,353
Increase during year 1898:—			
By excess of births over deaths	11,711	5,335	6,376
Excess of arrivals over departures	2,696	2,086	610
Estimated population, exclusive of Maoris, on 31st December, 1898	743,463	392,124	351,339
Maori population (1896)	39,854	21,673	18,181
Total estimated population of Colony on 31st December, 1898	783,317	413,797	369,520

The number of the Chinese in New Zealand at the end of the year 1898 was estimated to be 3,464 persons, of whom 31 were females.

INCREASE OF POPULATION.

The increase for each quarter of the year 1898 was:—

Increase from:	Total.	Males.	Females.
First Quarter.			
Excess of births over deaths	2,831	1,296	1,535
Excess of departures over arrivals (decrease)	−173	−23	−150
	2,658	1,273	1,385
Second Quarter.			
Excess of births over deaths	2,934	1,302	1,632
Excess of departures over arrivals (decrease)..	−1,082	−678	−404
	1,852	624	1,228
Third Quarter.			
Excess of births over deaths	2,853	1,310	1,543
Excess of arrivals over departures	610	505	105
	3,463	1,815	1,648
Fourth Quarter.			
Excess of births over deaths	3,093	1,427	1,666
Excess of arrivals over departures.. ..	3,341	2,282	1,059
	6,434	3,709	2,725
Year 1898.			
Excess of births over deaths	11,711	5,335	6,376
Excess of arrivals over departures	2,696	2,086	610
	14,407	7,421	6,986

The movement of population for seven years is given next. Although the large increase in 1893 by excess of arrivals over departures was not maintained during the five following years, the arrivals in the colony at all events exceeded the departures in each of these years, and the total excess of arrivals for the seven-year period 1892–98 inclusive is found to be 25,438 persons, drawn from other colonies or countries. The number may be somewhat greater than the actual fact, but probably not very much so. Reference to the possible source of error and its degree will be found further on.

Year.	Estimated Population on the 31st December.	Increase during the Year			Centesimal Increase on Population of Previous Year.
		By Excess of Births over Deaths.	By Excess of Arrivals over Departures.	Net Increase.	
1892	650,433	11,417	4,958	16,375	2·58
1893	672,265	11,420	10,412	21,832	3·36
1894	686,128	11,610	2,253	13,863	2·06
1895	698,706*	11,683	895	12,578	1·83
1896	714,162	12,180	1,472	13,652*	1·95
1897	729,056	12,142	2,752	14,894	2·09
1898	743,463	11,711	2,696	14,407	1·98

* The results of the census taken in April, 1896, disclosed the fact that the estimate of population for December, 1895, was too low by 1,804 persons. Adding this number to the increase for 1896 (13,652 persons) makes 15,456, which is the difference between the populations given for the years 1895 and 1896.

POPULATION OF PROVINCIAL DISTRICTS.

At a distance of three years' time from the date of the census it is impossible to state with anything like certainty of accuracy what the populations of the provincial districts may be. The natural increase by excess of births over deaths is correctly found and added, but the internal movement of people cannot be measured; and, in respect of the North and Middle Islands, it is known that a process of leaving the south and settling in the north has been going on for a long while. Further, the arrivals in the colony of persons from abroad and the departures to places outside New Zealand are counted in the Customs returns as at the first port of touching and the last of departure. Thus, the total excess of arrivals over departures has to be afterwards divided amongst the provincial districts proportionally, which is certainly not a method likely to give perfectly true results, though it is the best perhaps that can possibly be adopted for the years lying between those on which the quinquennial census is taken.

From the above remarks, it will be seen that the estimated populations given below are no doubt too high for the Middle Island and too low for the North, but there is no means of allowing for the presumed error. The figures are given with these qualifications:—

ESTIMATED POPULATIONS OF PROVINCIAL DISTRICTS, 31ST DECEMBER, 1898.

(Figures given subject to previous remarks.)

	Persons.		Persons.
Auckland	162,595	Westland	14,907
Taranaki	33,613	Canterbury	142,924
Hawke's Bay	36,411	Otago	172,162
Wellington	129,738	*Chatham Islands* ..	251
Marlborough	13,243	*Kermadec Islands* ..	7
Nelson	37,612		
Estimated total population of colony, excluding Maoris, Dec. 31, 1898			743,463

CENSUS, 1896.

The population of the colony (exclusive of Maoris), as returned in the census schedules for the night of the 12th April, 1896, was 703,360 persons, of whom 3,711 were Chinese, and 2,259 half-castes living amongst and as Europeans.

A census of the Maori population was taken during February of 1896, when the number of the Native race was found to be 39,854 persons, including 3,503 half-castes living as Maoris. 229 Maori women were returned as married to European husbands. The complete population (European and Maori) of the colony was therefore 743,214 persons, as exhibited in the following statement, specifying the numbers for each sex :—

	Persons.	Males.	Females.
Population (exclusive of persons of the aboriginal native race, of mixed European and Native blood, and Chinese)	697,390	366,607	330,783
Half-castes and persons of mixed race living as and among Europeans	2,259	1,123	1,136
Chinese	3,711	3,685	26
Aboriginal natives (including 229 Maori wives of Europeans)	36,351	19,729	16,622
Half-castes and persons of mixed race living among and as members of Maori tribes ..	3,503	1,944	1,559
Total population on 12th April, 1896	[*]743,214	393,088	350,126

The total half-caste or mixed European and Native population was 5,762 persons. The number of half-castes living among Europeans increased since 1891 by 75, or at the rate of 3·4 per cent. In that year the number of Maori wives of Europeans was 251; in 1896 it was 229. The Chinese decreased from 4,444 at the time of the census of 1891 to 3,711 in April, 1896; or at the rate of 16·5 per cent., caused mainly by the excess of departures over arrivals.

The Maori population fell from 41,993 in 1891 to 39,854 in 1896, according to the returns.

The increase on the total European population between April, 1891, and April, 1896, amounted to 76,702 persons, or a rate of 12·24 per cent. Between the census of 1886 and that of 1891 the numerical increase was 48,176 persons, or 8·33 per cent., so that an improved progress was made during the last five-year period to the extent of 3·91 per cent. The average annual increase in the period 1891–96 was at the rate of 2·33 per cent.

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[*] Not including 171 persons, officers and crew of a British man-of-war.

The population of the principal divisions of the colony in April, 1896, was—

	Persons.	Males.	Females.
North Island and adjacent islets (exclusive of Maoris)	340,631	181,089	159,542
Middle Island and adjacent islets (exclusive of Maoris)	362,236	190,038	172,198
Stewart Island	252	152	100
Chatham Islands (exclusive of Maoris) ..	234	132	102
Kermadec Islands	7	4	3
Total for the colony (exclusive of Maoris)	703,360	371,415	331,945

Population of Counties.

New Zealand is, by "The Counties Act, 1876," divided into counties and boroughs, excepting certain outlying islands, which are not within county boundaries. It is provided by the above-mentioned Act that boroughs shall not be included in counties. In April, 1896, the number of the counties was 81. Of these, the North Island had 47, with a population amounting altogether to 191,374 persons. The Middle Island had 33 counties, the population being 200,117 persons. Stewart Island is a county in itself, and had a population of 244 persons. The names and populations of the various counties in the colony were as under at the date of the enumeration:—

Counties.	Census, 1896.	Counties.	Census, 1896.	Counties.	Census, 1896.
Mongonui ...	1,889	Hawera ...	6,934	Inangahua ...	4,254
Whangaroa ...	969	Patea	3,084	Grey	4,592
Hokianga ...	1,909	Waitotara ...	2,737	Westland ...	4,723
Bay of Islands	2,723	Wanganui ...	3,095	Amuri	916
Hobson	3,750	Rangitikei ...	6,030	Cheviot ...	1,042
Whangarei ...	6,847†	Kiwitea ...	2,428	Ashley	11,913
Otamatea ...	2,483	Oroua	6,450	Selwyn	30,000†
Rodney ...	3,464	Pohangina ...	1,351	Akaroa	3,886
Waitemata ...	6,762	Manawatu ...	2,709	Ashburton ...	10,820
Eden	15,940	Horowhenua ...	3,792	Geraldine ...	7,499
Manukau ...	12,185	Hawke's Bay ...	6,894	Levels	7,723
Coromandel ...	4,987	Wairoa	1,490	Mackenzie ...	1,514
Thames ...	4,515	Waipawa ...	8,866	Waimate ...	4,777
Ohinemuri ...	4,761	Patangata ...	2,374	Waitaki... ...	8,876
Piako	2,706	Pahiatua ...	3,208	Waihemo ...	2,148
Waikato ...	2,814	Wairarapa North ...	7,209*	Waikouaiti ...	4,389
Waipa	3,584	Akitio ...		Peninsula ...	2,645
Raglan	1,545	Eketahuna ...		Taieri	6,950
Kawhia ...	598	Wairarapa South ...	5,409	Bruce	4,828
West Taupo ...	156	Hutt	5,750	Tuapeka ...	6,477
East Taupo ...	232	Sounds	747	Clutha	6,564
Rotorua ...	840	Marlborough ...	6,330	Maniototo ...	3,742
Tauranga ...	1,622	Kaikoura ...	1,575	Vincent ...	4,090
Whakatane ...	1,988	Collingwood ...	2,509	Lake	2,663
Waiapu ...	447	Waimea ...	8,591	Southland ...	21,603
Cook	5,287	Buller	4,833	Wallace ...	6,657
Clifton	1,450			Fiord	151
Taranaki ...	9,970			Stewart Island	244
Stratford ...	5,141				

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* Since the census was taken in 1896 two new counties—Akitio and Eketahuna—have been constituted. Both were cut out of Wairarapa North County.

† Since the 12th April, 1896, the following new boroughs have been constituted: New Brighton (population 800 in 1898), cut out of Selwyn County; Whangarei (population 1,250 in 1898), cut out of Whangarei County.

As before stated, the total county population amounted to 391,735, or 55·69 per cent. of the total for the colony.* In counties are included all towns not constituted municipal boroughs; but, on the other hand, the people living in many of the boroughs can hardly be called town population. The population in boroughs was 307,294 persons, or 43·69 per cent. of the whole. For every 100 persons resident in counties in 1896 there were 78 residing in boroughs. In 1891 the counties had 352,097 persons, and the boroughs 270,343, or, in other words, for every 100 persons in counties, 76 were residents of the boroughs. Thus it will be seen that the proportion of the town to the county population was slightly greater in 1896 than in 1891.

POPULATION OF BOROUGHS.

The populations of the municipal boroughs in the colony, as estimated for the year 1898, are stated, there being no means of giving exact information until another census enumeration has been made, which will probably be in April of the year 1901.

Boroughs.	Estimated Population 1898.
Whangarei	1,250
Birkenhead	749
Devonport	3,320
Auckland	35,670†
Newton	3,049
Newmarket	2,106
Parnell	4,327
Onehunga	2,913
Thames	5,000
Hamilton	1,250
Cambridge	865
Tauranga	1,050
Gisborne	2,500
New Plymouth	4,176
Hawera	2,200
Patea	740
Wanganui	6,362
Marton	1,200
Feilding	2,150
Palmerston North	6,200
Foxton	1,140
Hastings	3,300
Napier	9,399
Dannevirke	1,600
Woodville	1,150
Pahiatua	1,200
Masterton	3,800
Carterton	1,300
Greytown	1,127
Lower Hutt	1,550
Petone	3,200
Onslow	1,850
Wellington	42,512
Karori	1,050
Melrose	2,295
Picton	800
Blenheim	2,900
Nelson	7,064
Richmond	595
Westport	3,200
Greymouth	3,345
Brunner	1,200
Kumara	1,150
Hokitika	2,494
Ross	750
Rangiora	1,871
Kaiapoi	1,880
Christchurch	18,085
Linwood	6,553
St. Albans	6,500
Sydenham	10,987
Woolston	2,274
Sumner	584
New Brighton	800
Lyttelton	4,053
Akaroa	630
Ashburton	2,100
Timaru	3,755
Waimate	1,500
Oamaru	5,372
Hampden	320
Palmerston South	775
Hawksbury	730
Port Chalmers	2,100
North-east Valley	3,575
Maori Hill	1,608
West Harbour	1,400
Dunedin	23,500
Roslyn	4,329
Mornington	3,825
Caversham	4,830
St. Kilda	1,359
South Dunedin	5,066
Green Island	700
Mosgiel	1,450
Milton	1,300
Kaitangata	1,400
Balclutha	925
Lawrence	1,010
Roxburgh	450
Tapanui	450
Naseby	500
Cromwell	550
Alexandra	400
Arrowtown	409
Queenstown	750
Gore	2,500
Mataura	800
Winton	400
Invercargill	5,591
North Invercargill	920
South Invercargill	1,920
East Invercargill	980
Avenal	400
Gladstone	380
Campbelltown	1,122
Riverton	1,000

The Cities of Auckland, Christchurch, and Dunedin have considerable suburbs. The suburban population of Wellington is comparatively small. The following gives the names and populations of the several localities which may fairly be termed suburbs of the four principal cities:—

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* For population of ridings, road districts, and localities, see Census volume, p. 32, Part I.

† Subject to revision; no particulars supplied for a calculation.

SUBURBS OF AUCKLAND.

Boroughs—	Estimated Population, Dec., 1898.
Birkenhead	749
Devonport	3,320
Newmarket	2,106
*Newton	3,049
Parnell	4,327
Road Districts—	
Arch-hill	1,557
Eden Terrace	1,604
Epsom	660
Mount Albert	1,668
Mount Eden	3,677
Mount Roskill	495
One-tree Hill	975
Point Chevalier ..	591
Remuera	2,034
Northcote Riding ..	530
Outlying portion of Parnell Riding, being land in the Domain with hospital on it	197
Total suburbs ..	27,539
Auckland City ..	35,670
Total Auckland and suburbs ..	63,209

SUBURBS OF WELLINGTON.

Boroughs—	
Onslow	1,350
Melrose	2,295
Karori	1,050
Total suburbs ..	4,695
Wellington City ..	42,512
Total Wellington and suburbs ..	47,207

SUBURBS OF CHRISTCHURCH.

Boroughs—	Estimated Population, Dec., 1898.
St. Albans	6,500
Sydenham	10,987
Linwood	6,553
Woolston	2,274
Road Districts—	
Avon (part)	2,962
Heathcote (part) ..	1,980
Riccarton (part) ..	3,657
Spreydon	1,278
Halswell (part).. ..	224
Total suburbs ..	36,415
Christchurch City ..	18,085
Total Christchurch and suburbs ..	54,500

In laying off the suburbs of Christchurch the boundaries of the Christchurch Health District have been mainly followed.

SUBURBS OF DUNEDIN.

Boroughs—	
Caversham	4,830
Maori Hill	1,608
Mornington	3,825
North-East Valley ..	3,575
Roslyn	4,329
St. Kilda	1,359
South Dunedin ..	5,066
West Harbour	1,400
Total suburbs ..	25,992
Dunedin City ..	23,500
Total Dunedin and suburbs ..	49,492

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* To be called "Grey Lynn" from 16th August, 1899.

The increase of population for seven years at the four chief centres, with their suburbs, was:—

	Census, 1891.	Dec., 1898. Estimated.	Numerical Increase.	Increase per Cent.
Auckland and suburbs ..	51,287	63,209	11,922	23·2
Wellington and suburbs ..	34,190	47,207	13,017	38·1
Christchurch and suburbs ..	47,846	54,500	6,654	13·9
Dunedin and suburbs ..	45,869	49,492	3,623	7·9

Thus the two principal cities of the North Island are found to have progressed between 1891 and 1898 at a greater rate than those of the Middle Island, and Wellington in particular to have developed at nearly five times the rate of Dunedin and about three times as fast as Christchurch during the quinquennium.

While New South Wales and Victoria present what is termed by the statistician of the former colony "the disquieting spectacle of capital towns growing with wonderful rapidity, and embracing in their limits one-third of the population of the territory of which they are the centre," New Zealand is saved from this by the configuration of the country, which has resulted in the formation of four chief towns, besides others of secondary importance but nevertheless trading centres.

POPULATION OF TOWN DISTRICTS AND SMALL CENTRES.

Besides the boroughs, there are 39 town districts (including the special town district of Rotorua, constituted under "The Thermal-Springs Districts Act, 1881,") which are portions of the counties in which they are situated. Two only of these, Stratford and Hampstead, have more than 1,000 inhabitants. A list of these town districts is subjoined, with populations, as in 1896:—

Town Districts.	Population.	Town Districts.	Population.
Kamo	222	Taradale	807
Helensville	564	Ormondville	453
Papakura	274	Waipawa	764
Te Aroha	672	Kaikora North	301
Te Awamutu	347	Featherston	711
Kihikihi	202	Johnsonville	493
Ngaruawahia	235	Havelock	365
Rotorua*	499	Amberley	437
Opotiki	641	Southbridge	494
Waitara (Raleigh)	517	Hampstead	1,214
Opunake	400	Tinwald	538
Inglewood	658	Geraldine	841
Stratford	1,256	Temuka	660
Normanby	396	Arowhenua	789
Manaia	471	Allanton (formerly Grey)	274
Waverley	442	Outram	452
Lethbridge	251	Clinton	474
Bulls	521	Wyndham	483
Halcombe	376	Otautau	367
Clyde (Wairoa)	579		

In addition to the boroughs and town districts above referred to, the census results showed for 1896 throughout the colony no less than 561 places of the nature of townships, villages, or small centres without boundaries. One of these (New Brighton) has since been constituted a borough. It is impossible to say that the populations of these small centres are all strictly accurate, even for the census date, or given in such a way as to be fit for comparison one with another. In different cases more or less of surrounding country may have been considered as belonging to the centre, but there is at least at each place mentioned some sort of nucleus of population, if not a well-defined village or township. In making the statement the best has been done with a difficult matter, and the information is given as useful—in some cases, like that of Reefton, important—even if open to objection here and there. The county in which each is situated is also given:—

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* Constituted under "The Thermal-Springs Districts Act, 1881."

	Population.
Abbotsford, Taieri	197
Adair, Levels	127
Adams's Flat (and vicinity), Bruce	72
Adamson's, Southland	80
Addington, Selwyn	480
Addison's Flat, Buller	277
Ahaura, Grey	252
Albert Town, Vincent	52
Albury, Mackenzie	96
Alford Forest, Ashburton	426
Alfredton, Wairarapa North	88
Allandale, Waihemo	93
Allenton, Ashburton	763
Alma, Waitaki	158
Alton, Patea	72
Anderson's Bay, Peninsula	489
Annat, Selwyn	72
Antonio's Flat, Inangahua	59
Aongatete, Tauranga	33
Apiti, Pohangina	110
Aratapu, Hobson	508
Arden, Taieri	85
Arthurtown, Westland	51
Arundel, Geraldine	78
Ashley, Ashley	70
Ashurst, Oroua	361
Athol, Southland	85
Avondale, Eden	872
Awanui, Waiapu	43
Bainfield, Southland	114
Bainham, Collingwood	106
Bald Hill Flat, Vincent	242
Ballance, Pahiatua	93
Bannockburn, Vincent	410
Barkly, Southland	146
Bay View, Southland	38
Beaconsfield, Levels	141
Beck's Maniototo	76
Belfast, Selwyn	600
Belgrove, Waimea	332
Bendigo, Vincent	56
Bennett's, Ashley	150
Berwick, Taieri	77
Birmingham,* Kiwitea	155
Blackball, Grey	176
Black's Point, Inangahua	283
Blackwater, Inangahua	163
Blue Spur, Westland	53
Bluestone, Tuapeka	188
Brighton, Taieri	57
Brightwater, Waimea	409
Broad Bay, Peninsula	301
Brockville, Taieri	44
Buffalo, Coromandel	146
Bunnythorpe (and vicinity), Oroua	309
Burke's, Mackenzie	90
Burnside, Taieri	159
Cabbage Bay, Coromandel	133
Calcium, Wallace	31
Callaghan's, Westland	47
Cambrian's Maniototo	134
Cambridge West, Waipa	255
Canvastown, Marlborough	54
Cape Foulwind, Buller	223
Capleston, Inangahua	170
Cardrona, Lake	176
Castlecliffe, Waitotara	269
Castlepoint, Wairarapa North	31
Caversham, Levels	37
Centre Bush, Southland	66
Charleston Buller	151
Charlton, Southland	32
Cheltenham, Kiwitea	43
Chertsey, Ashburton	93
Clareville, Wairarapa South	46
Clifton, Collingwood	58
Clyde, Vincent	310
Coalbrookdale, Buller	165
Coal Creek, Tuapeka	305
Coalgate, Selwyn	116
Cobden, Grey	274
Courtenay, Selwyn	67
Crofton, Rangitikei	113
Cromarty (and vicinity), Fiord	39
Crushington, Inangahua	108
Cullensville, Marlborough	136
Culverden, Amuri	40
Cust, Ashley	117
Dalefield, Wairarapa South	194
Danieltown, Wallace	34
Darfield and Horndon, Selwyn	262
Dargaville, Hobson	358
Deborah, Waitaki	60
Deborah Bay, Waikouaiti	131
Denlair, Wanganui	52
Denniston, Buller	181
Dillman's, Westland	467
Dipton, Southland	86
Doyleston, Selwyn	241
Dromore, Ashburton	54
Drummond, Wallace	213
Dunback, Waihemo	134
Dunganville, Grey	125
Dunkeld, Tuapeka	80
Dunsandel, Selwyn	153
Duntroon, Waitaki	195
Durie Town, Wanganui	172
Duvauchelle's Bay, Akaroa	89

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* Now known as Kimbolton. (*Gazette*, 5th January, 1899.)

East Clive, Hawke's Bay	239
East Dipton, Southland	162
Eastown, Wanganui	228
East Winton, Southland	137
Edendale, Southland	184
Eketahuna, Wairarapa North	476
Eltham, Hawera	306
Enfield, Waitaki	254
Epworth, Geraldine	62
Ettrick, Tuapeka	69
Evansdale, Waikouaiti	45
Eweburn, Maniototo	166
Fairdown, Buller	44
Fairfax (and vicinity), Bruce	171
Fairfield, Taieri	80
Fairlie, Mackenzie	369
Fendalton, Selwyn	367
Fernhills, Southland	67
Fernside, Ashley	390
Ferntown, Collingwood	81
Flax Swamp, Waikouaiti	88
Flaxton, Ashley	138
Fordell, Wanganui	151
Fortrose, Southland	140
Frankton, Lake	156
Frasertown, Wairoa	176
Galatea, Whakatane	82
Garfield, Wallace	41
Georgetown, Geraldine	34
Georgetown, Waitaki	119
German Bay, Akaroa	212
Gibbston, Lake	155
Gibbstown, Collingwood	181
Gimmerburn, Maniototo	178
Glenavy, Waimate	55
Gleniti (and vicinity), Levels	111
Glenore (and vicinity), Bruce	91
Glentunnel, Selwyn	189
Goldsborough, Westland	179
Gordon Special Settlement, Piako	70
Governor's Bay, Akaroa	163
Granity Creek, Buller	193
Grassmere, Southland	104
Greatford, Rangitikei	90
Greendale, Selwyn	370
Green Island Bush, Taieri	237
Greenpark, Selwyn	349
Greenstone, Grey	100
Greerton, Tauranga	54
Grovetown, Marlborough	316
Gumtown, Coromandel	51
Hakaru, Otamatea	34
Hakataramea, Waimate	90
Hamilton, Maniototo	50
Hampden, Waipawa	188
Hamua, Wairarapa North	103
Hardie's Taieri	82
Harwood, Southland	58
Hastings, Thames	101
Hastwell, Wairarapa North	169
Hatter's, or Nelson Creek, Grey	128
Havelock, Hawke's Bay	407
Hawarden, Ashley	32
Hawksbury, Waikouaiti	132
Heddon Bush, Wallace	119
Henderson, Waitemata	60
Henley, Taieri	303
Herbert, Waitaki	401
Herbertville, Patangata	113
Heriot (and outlying), Tuapeka	163
Highcliffe, Peninsula	278
Hikurangi, Whangarei	354
Hikutaia, Thames	179
Hillgrove, Waitaki	93
Hilton, Geraldine	47
Hindon, Taieri	117
Hirstfield, Wallace	169
Hobsonville, Waitemata	195
Hodgkinson, Wallace	60
Hororata, Selwyn	242
Howick, Manukau	220
Huirangi, Taranaki	50
Hunterville, Rangitikei	755
Huntly, Waikato	512
Hurunui, Ashley	53
Hyde, Maniototo	222
Ida Valley, Vincent	262
Inangahua Junction, Inangahua	31
Inglewood, Southland	73
Islington, Selwyn	207
Jackeytown, Oroua	72
Kaeo, Whangaroa	181
Kai Iwi, Waitotara	64
Kaikohe, Bay of Islands	134
Kaikoura, Kaikoura	394
Kaitaia, Mongonui	114
Kakanui (North), Waitaki	163
Kakanui (South), Waitaki	204
Kakaramea, Patea	110
Kanieri, Westland	175
Kapanga, Coromandel	500
Karangahake, Ohinemuri	609
Kaukapakapa, Waitemata	313
Kawakawa, Bay of Islands	321
Kawarau Gorge, Vincent	44
Kawhia, Kawhia	37
Kennedy Bay, Coromandel	72
Kennington, Southland	50
Kensington, Levels	167
Kereru (and vicinity), Horowhenua	135
Killinchy, Selwyn	54
Kimberley, Selwyn	162
Kingston, Lake	47
Kirwee, Selwyn	74
Kokonga, Maniototo	111
Kohukohu, Hokianga	262
Kopu, Thames	136
Kuaotunu, Coromandel	424
Kuaotunu Upper, Coromandel	299

Kumeroa, Waipawa	104
Kuri Bush, Taieri	46
Kuriwao, Clutha	122
Kurow, Waitaki	271
Kyeburn Diggings, Maniototo	97
Kyeburn, Lower, Maniototo	113
Kyeburn, Upper, Maniototo	72
Lake Hayes, Lake	104
Lamlash, Peninsula	31
Lauder, Maniototo	51
Le Bon's Bay, Akaroa	271
Leedstown, Rangitikei	36
Leeston, Selwyn	573
Leithfield, Ashley	345
Levin, Horowhenua	581
Lichfield, Piako	49
Lime Hills, Southland	126
Lincoln, Selwyn	569
Lintley, Southland	47
Linton, Oroua	51
Little Akaloa, Akaroa	259
Little River, Akaroa	137
Livingstone, Waitaki	110
London, Taieri	100
Long Bush, Southland	84
Longridge, Southland	105
Lowburn, Vincent	132
Lower Hawea, Vincent	225
Lower Woodstock, Westland	57
Lowther, Southland	28
Luggate, Vincent	76
Lumsden, Southland	223
Lumsden Extension, Southland	154
Lyell, Buller	159
Macandrew, Southland	72
Macetown, Lake	161
Mackaytown, Ohinemuri	32
Mackenzie, Cheviot	53
Macrae's (and vicinity), Waihemo	103
Maheno, Waitaki	206
Mairtown, Whangarei	177
Makakahi, Pahiatua	61
Makarewa, Southland	250
Maketu, Tauranga	72
Makikihi, Waimate	57
Makuri, Pahiatua	93
Makutoku, Waipawa	175
Mangamahoe, Wairarapa North	35
Mangaonoho, Rangitikei	166
Mangatainoko, Pahiatua	106
Mangawai, Otamatea	272
Mangaweka, Rangitikei	349
Mangawhare, Hobson	471
Manakau, Horowhenua	149
Mandeville, Southland	108
Mansfordtown, Waikouaiti	380
Manutahi, Patea	69
Manutahi, Taranaki	175
Maori Gully, Grey	58
Marlboroughtown, Marlborough	148

Marsden, Grey	44
Marshalltown, Kiwitea	63
Matakohe, Otamatea	93
Matamau, Waipawa	137
Matata, Whakatane	70
Martinborough, Wairarapa South	75
Maungatua, Taieri	63
Mauriceville East, Wairarapa North	77
Mayfield, Waitemata	76
Maxwelltown, Waitotara	153
Meanee, Hawke's Bay	145
Menzies' Ferry, Southland	125
Mercer (and vicinity), Manukau	210
Mercury Bay, Coromandel	472
Merryjigs, Inangahua	81
Merton, Waikouaiti	753
Methven, Ashburton	295
Middlemarch, Taieri	130
Midhirst, Stratford	248
Milford, Geraldine	247
Mohaka, Wairoa	36
Mokau, Kawhia	108
Mokihinui, Buller	45
Mongonui, Mongonui	226
Morley, Wallace	53
Morrinsville, Piako	151
Morton, Levels	235
Motueka, Waimea	877
Mount Somers, Ashburton	206
Mount Pisa, Vincent	49
Murchison, Inangahua	75
Nenthorn, Waikouaiti	59
Newman, Wairarapa North	227
Newport, Hobson	97
Ngahauranga, Hutt	212
Ngahere, Grey	137
Ngapara, Waitaki	233
Nightcaps, Wallace	167
Normanby, Levels	36
Norsewood (and vicinity), Waipawa	898
North Heads, Waikouaiti	78
North Taieri, Taieri	183
No Town, Grey	80
Nukumaru, Waitotara	93
Oakura, Taranaki	46
Oaklands, Peninsula	52
Oban, Stewart Island	41
Ohaeawai, Bay of Islands	92
Ohakune, Wanganui	40
Ohau (and vicinity), Horowhenua	256
Ohinemutu, Rotorua	131
Ohingaiti, Rangitikei	410
Ohoka, Ashley	654
Okaiawa, Hawera	107
Okaihau and Omapere, Bay of Islands	286

Okain's Bay, Akaroa	222
Okarito, Westland	62
Okato, Taranaki	64
Ongaonga, Waipawa	92
Ophir, Vincent	266
Opua, Bay of Islands	57
Oraka, Wallace	111
Orari, Geraldine	135
Oropi, Tauranga	37
Orwell Creek, Grey	105
Otago Heads, Peninsula	179
Otahuhu, Manukau	942
Otaki (and vicinity), Horowhenua	836
Otakia, Taieri	42
Otara, Southland	200
Otekaike, Waitaki	53
Otiaki, Waitaki	176
Owaka, Clutha	611
Owharoa, Ohinemuri	163
Owhiro, Taieri	38
Oxford East, Ashley	153
Oxford West, Ashley	241
Paeroa, Ohinemuri	779
Pahia, Wallace	84
Paikakariki, Hutt	146
Pakawau, Collingwood	71
Panmure, Eden	323
Papanui, Selwyn	479
Paraparaumu, Hutt	192
Parkville, Wairarapa North	233
Patangata, Patangata	103
Patutahi (and vicinity), Cook	263
Peel, Geraldine	53
Pembroke, Lake	176
Pigeon Bay, Akaroa	352
Pihama, Hawera	37
Piko, Levels	160
Pine Hill, Waikouaiti	88
Pipiriki, Wanganui	44
Pirongia East, Waipa	89
Pleasant Valley, Waikouaiti	34
Plimmerton, Hutt	49
Pohangina, Pohangina	163
Point, Levels	90
Porirua, Hutt	74
Porangahau, Patangata	171
Port Albert, Rodney	56
Port Moeraki, Waitaki	150
Portobello Town, Peninsula	37
Pourakino, Wallace	33
Prebbleton, Selwyn	330
Prestonville, Southland	107
Pukerau, Southland	126
Purakanui, Waikouaiti	47
Puriri, Thames	143
Raetihi, Wanganui	83
Rakaia, Ashburton	458
Rangiriri, Waikato	47
Rangiwhia (Pemberton), Kiwitea	63
Rangotea, Manawatu	136
Ranzau, Waimea	60
Rata Settlement, Rangitikei	195
Rawene, Hokianga	120
Redcliffe, Waimate	227
Reefton, Inangahua	1,591
Reidston, Waitaki	184
Renwicktown, Marlborough	324
Reynolds, Waikouaiti	38
Riccarton, Taieri	99
Riccarton, Lower, Selwyn	422
Riccarton, Upper, Selwyn	502
Richmond, Selwyn	288
Richmond Grove, Southland	96
Rikiorangi, Hutt	96
Rimu, Westland	174
Riversdale, Southland	265
Riwaka, Waimea	575
Rockville, Collingwood	102
Rolleston, Selwyn	136
Rotheram, Amuri	132
Rotorua, Rotorua	499
Round Hill Diggings, Wallace	225
Ruapekapeka, Bay of Islands	92
Russell, Bay of Islands	257
Sandymount, Peninsula	299
Sanson, Manawatu	255
Sarau, Waimea	58
Sawyer's Bay, Waikouaiti	382
Scarborough, Pahiatua	76
Sefton, Ashley	270
Selwyn, Selwyn	55
Shaftesbury, Piako	44
Shannon, Horowhenua	262
Sheffield, Selwyn	176
Shiel Hill, Peninsula	47
Shortland, Thames	1,191
Silverstream, Mackenzie	118
Skippers, Lake	63
Southbrook, Ashley	352
South Malvern, Selwyn	92
Spreydon, Selwyn	354
Springfield, Selwyn	211
Spring Grove, Waimea	361
Springston, Selwyn	584
Stafford, Westland	140
St. Andrews, Waimate	201
St. Bathans, Maniototo	254
Stirling (and vicinity), Bruce	211
Stoke, Waimea	547
Studholme Junction, Waimate	93
Swannanoa, Ashley	161
Swanson, Waitemata	88
Switzers, Southland	98
Taiaroa Heads, Peninsula	40
Tairua, Thames	141
Taitapu, Selwyn	376
Takapau, Waipawa	159
Tauherenikau, Wairarapa South	71
Taupaki, Waitemata	276
Taupo, East Taupo	72

Taupiri, Waikato	47
Taylorville, Wanganui	51
Te Aroha West, Piako	131
Te Aute, Waipawa	93
Teddington, Akaroa	103
Te Karaka, Cook	67
Te Kopuru, Hobson	184
Templeton, Selwyn	310
Te Puke, Tauranga	169
Thornbury, Wallace	125
Thorpe, Waimea	67
Tikokino, Waipawa	39
Tiniroto, Cook	57
Tinker's, Vincent	242
Tinui, Wairarapa North	221
Tokaanu, East Taupo	59
Toko, Stratford	134
Tokomaru, Horowhenua	88
Totara, Whangaroa	263
Tuakau, Manukau	377
Tutaekara, Pahiatua	74
Turua, Thames	247
Upper Hutt, Hutt	339
Upper Woodstock, Westland	167
Urenui, Clifton	91
Vauxhall, Peninsula	89
Waddington, Selwyn	121
Wade, Waitemata	208
Waianiwa, Southland	49
Waiau, Amuri	183
Waihi, Ohinemuri	1,102
Waihola, Bruce	142
Waihou, Piako	85
Waikaia, Southland	256
Waikaka, Southland	41
Waikanae, Horowhenua	84
Waikare, Ashley	258
Waikiwi, Southland	45
Waikoikoi, Clutha	215
Waimangaroa, Buller	399
Waimate, Bay of Islands	106
Waimatuku, Wallace	225
Waimea West, Waimea	293
Wainuiomata, Hutt	45
Waiomio, Bay of Islands	76
Waiorongomai, Piako	201
Waipahi, Clutha	109
Waipara, Ashley	48
Waipiro, Waiapu	73
Waipori, Tuapeka	157
Waipu Central, Whangarei	183
Waipukurau, Waipawa	549
Wairio, Wallace	81
Waitahuna, Tuapeka	289
Waitati (and vicinity), Waikouaiti	339
Waitekauri, Ohinemuri	463
Waitotara, Patea	207
Waituna, Kiwitea	37
Waiwera, Clutha	70
Wakefield, Waimea	694
Wallacetown, Southland	159
Wallingford, Patangata	65
Walton, Taieri	32
Wanstead, Patangata	80
Warepa, Clutha	257
Washdyke, Levels	494
Waterford, Tauranga	116
Waterton (and vicinity), Ashburton	235
Watlington, Levels	39
Wayne's, Waihemo	38
Weber, Patangata	108
Weedon's, Selwyn	43
Wereroa, Horowhenua	87
West Clive, Hawke's Bay	428
Weston, Waitaki	138
Weston Park, Waitaki	49
Whakakiti, Wairarapa North	71
Whakatane, Whakatane	119
Whangapoua, Coromandel	77
Whangaroa, Whangaroa	152
Whare Flat Road, Taieri	64
Whenuakiti, Coromandel	90
Whitecliffs, Selwyn	34
Whitmore, Oroua	75
Whitstone, Waitaki	84
Wickliffe Bay, Peninsula	41
Wimbledon, Patangata	79
Winchester, Geraldine	212
Windsor, Waitaki	99
Wingatui, Taieri	174
Woodbury, Geraldine	318
Woodend, Ashley	498
Woodend, Southland	96
Woodfield, Southland	46
Woodlands, Taieri	35
Woodlands, Southland	218
Woodside, Taieri	163
Wrey's Bush, Wallace	123

POPULATION OF ADJACENT ISLANDS.

The names and populations of the islands adjacent to and included in the colony were, in April, 1896:—

Islands.	Total.	M.	F.	Islands.	Total.	M.	F.
Rangitoto	3	3	..	Kawau	10	7	3
Great Barrier	307	193	114	Motiti	9	8	1
Week's Island	2	1	1	Tiritiri	6	2	4
Waiheke	166	76	90	Ponui (Light)	1	1	..

Islands.	Total.	M.	F.	Islands.	Total.	M.	F.
Ponui Island ..	28	13	15	Portland	25	10	15
Cuvier	6	4	2	Kapiti	1	1	..
Moturoa	2	1	1	Somes's	9	3	6
Mercury	7	2	5	Stephens	16	7	9
Mokohinau	5	3	2	The Brothers ..	3	3	..
Motuhora	8	4	4	Quarantine	2	1	1
Bean Rock (Light) ..	1	1	..	Dog	13	5	8
Motuhihi ..	11	6	5	Ruapuki	9	9	..
Pahiki	10	7	3	Centre	15	10	5
Rakino	4	3	1	Chatham	234	132	102
Motutapu	11	8	3	Kermadec	7	4	3
Brown's	1	1	..				
Rotoroa (Ruth's) ..	15	6	9		950	538	412
Slipper	3	3	..				

The islands which are not included within the boundaries of the counties had a population of 950 persons (exclusive of Maoris), against 913 in 1891. Only three of the islands had a population over 100 persons at last census. The population of the Great Barrier increased since 1891 from 262 to 307 persons; Waiheke showed a decrease from 215 to 166 persons. Europeans at the Chatham Islands decreased from 258 to 234.

POPULATION OF AUSTRALASIA.

The Australasian Colonies as a whole contained a population on the 31st December, 1898, estimated at 4,476,985 persons, including those living in the Northern Territory of South Australia, but exclusive of the aboriginal natives of Queensland, South and Western Australia, and 39,854 New Zealand Maoris.

The population of Fiji in December, 1898, was 121,738 persons—67,245 males and 54,493 females. These numbers include natives and imported labourers, besides people of European descent.

AUSTRALASIAN COLONIES.

Colony.	Population* on 31st December, 1898.			Rate of Increase during 1898.		
	Males.	Females.	Total.	Males.	Females.	Total.
	No.	No.	No.	per cent.	per cent.	per cent.
New South Wales	721,335	624,905	1,346,240	1·69	1·76	1·72
Victoria	593,446	582,044	1,175,490	−0·33	0·21	−0·06
Queensland	279,670	218,853	498,523	3·06	2·59	2·85
South Australia (including Northern Territory)	191,745	176,055	367,800	1·81	0·77	1·31
Western Australia	112,054	56,075	168,129	1·54	8·75	3·83
Tasmania	95,632	81,709	177,341	4·39	1·99	3·27
New Zealand (exclusive of 39,854 Maoris	392,124	351,339	743,463	1·93	2·03	1·98
Australasia ...	2,386,006	2,090,980	4,476,986	1·48	1·55	1·52

− Denotes loss.

* Subject to slight alteration on receipt of final returns.

The growth of population in these colonies over a period of thirty-eight years is shown in a comparative table. The total for

1898, being 4,476,986 persons, is greater than the population of Scotland but a little less than that of Ireland for 1895, and one-seventh part of the population of England and Wales for that year. The Australasian Colonies have now twice the population of Denmark, one-third more than Switzerland, and nearly that of the Netherlands.

Colony.	1860. Persons.	1870. Persons.	1880. Persons.	1890. Persons.	1898. Persons.
New South Wales ..	348,546	498,659	747,950	1,121,860	1,346,240
Victoria	537,847	726,599	860,067	1,133,266	1,175,490
Queensland ..	28,056	115,567	226,077	392,965	498,523
South Australia ..	124,112	183,797	267,573	319,414	367,800
Western Australia ..	15,227	25,084	29,019	46,290	168,129
Tasmania	87,775	100,765	114,762	145,290	177,341
New Zealand ...	79,711	248,400	484,864	625,508	743,463
Australasia ..	1,221,274	1,898,871	2,730,312	3,784,593	4,476,986

ARRIVALS AND DEPARTURES.

The number of persons who arrived in the colony in the year 1898 was 18,855, an increase of 263 on the number for the previous year. Of the arrivals in 1898, 16,942 persons were classified as adults, being above the age of twelve years, and 1,913 as children. The total number of males was 12,524, and of females 6,331. The arrivals from the United Kingdom numbered 2,598, and from Australia 14,969. Besides these, 214 persons came from Fiji, and 1,074 from the South Seas and other ports, including arrivals by mail-steamers from San Francisco.

Classified in respect of birthplace, it is found that 7,318 of the arrivals were persons born in the Australasian Colonies, 9,872 in the United Kingdom, and 34 in other British possessions. Of 1,631 persons arriving from foreign countries, 859 were born in Austria, 187 in Germany, 177 in the United States, 147 in France, 99 in Italy, 34 in Sweden, 7 in Norway, and 121 from other countries.

Among the arrivals in 1898 are noticed 76 "race-aliens," or persons of other than European descent. Particulars of birthplace and sex are as under:—

Birthplace.	M.	F.	Total.
China	25	3	28
Japan	7	2	9
Syria	8	5	13
Pacific Islands	18	3	21
Fiji	1	0	1
India	3	0	3
Ceylon	1	0	1
Total	63	13	76

The practice of nominating immigrants to be brought out partly at the Government expense has been discontinued since the 16th December, 1890, and there was no free immigration in the year 1898.

Only 28 Chinese (25 men and 3 women) arrived in the colony during 1898, but 93 left (all men), the departures thus exceeding the arrivals by 65.

The total departures in 1898 were 16,159 persons, being 319 more than in 1897. Thus, the movement of population to and from the colony is found to have been greater than in the previous year.

In each of the years 1892 to 1898, inclusive, the colony has drawn to itself more population than it has parted with, notwithstanding the attractions of Australian and other goldfields.

The departures from the colony by the Union Steamship Company's boats, as given through the Customs Department, are checked by special returns kindly furnished by the pursers of the steamers, and, where persons who did not book their passages have been omitted, the necessary additions are made. The pursers' returns also serve to prevent the occasional omission of the full number of persons leaving by any one vessel, which sometimes had happened previous to the introduction of this check. Unless more passengers are at any time of great pressure taken away from New Zealand than can lawfully be carried, the returns of outgo of population should prove very fairly correct, and indeed the census of 1896 showed that the estimates of population even after five years' interval was a very close approximation to the truth.

Of the departures in 1898, 14,622 persons were over twelve years of age, and 1,537 children. Nearly twice as many males left the colony as females, the numbers being 10,438 and 5,721 respectively. The departures to the United Kingdom amounted to 1,199 persons, and those to Australia numbered 13,619. Besides these, 151 persons left for Fiji, and 1,190 for other ports (including passengers for San Francisco).

The arrivals and departures for seven years are given in the following tables, in which 1893 shows the highest number of persons inwards, 26,135, and 1894 of persons outwards, 22,984. In regard to Australia the movement was also greatest during the same years, the arrivals in 1893 being 22,351, and departures in 1894 20,488 persons:—

ARRIVALS, SEVEN YEARS.

Year.	From United Kingdom.	From Australian Colonies.	From Other Places.	Total Arrivals.
1892	2,555	14,674	893	18,122
1893	2,929	22,351	855	26,135
1894	2,846	21,291	1,100	25,237
1895	2,365	18,573	924	21,862
1896	1,956	14,125	1,155	17,236
1897	2,724	14,799	1,069	18,592
1898	2,598	14,969	1,288	18,855
Totals, seven years	17,973	120,782	7,284	146,039

DEPARTURES, SEVEN YEARS.

Year.	To United Kingdom.	To Australian Colonies.	To Other Places.	Total Departures.
1892	1,612	10,669	883	13,164
1893	1,583	13,277	863	15,723
1894	1,669	20,488	827	22,984
1895	1,703	18,377	887	20,967
1896	1,578	13,208	978	15,764
1897	1,592	13,293	955	15,840
1898	1,199	13,619	1,341	16,159
Totals, seven years	10,936	102,931	6,734	120,601

It will be found that the above figures give the total arrivals from the United Kingdom in seven years as 17,973 persons, and the departures as 10,936; and there is no reason to doubt the correctness of these results. The colony drew directly from the Mother-country 7,037 persons over and above those that went back directly during the seven-year period. For each year in the period the arrivals from the United Kingdom exceed the departures, but the excess was only 943 in the year 1892, as compared with 1,399 in 1898. In regard to Australia, for each year given in the table the balance of interchange is in favour of New Zealand. For this seven-year period there was a net gain amounting to 17,851 persons.

The interchange of people with places other than the United Kingdom and Australia has also been since 1892 in favour of New Zealand, the net gain amounting to 550 persons.

The Board of Trade, London, publishes the total emigration from the United Kingdom to Australasia as a whole. By the figures given it will be seen that there was of late years an annual decrease in the number of persons coming to these colonies from the Home country until 1897, when the number somewhat increased. Prior to 1893 the arrivals from the United Kingdom ranged from 44,055 in 1886 down to 16,183 in 1892. Alongside of the Imperial returns of departures to Australasia are shown in the following statement the arrivals in New Zealand direct from the United Kingdom, taken from our own returns, which numbers are short of the full total of persons coming here from England by the arrivals *viâ* Australia or the United States of America. But, using the information available, it seems evident that New Zealand has been latterly preferred to Australia, from the high proportion which the arrivals here (direct) bear to every hundred of departures from England for the Australasian Colonies.

So long as New Zealand can secure one-sixth or more of the total persons leaving England for Australasia, she takes more than the proportion her population bears to that of the seven colonies collectively:—

Year.	Emigration from United Kingdom to Australasia.	Arrivals in New Zealand from United Kingdom.	Arrivals in New Zealand per 100 Departures for Australasia from United Kingdom.
1893	11,412	2,929	25·67
1894	11,151	2,846	25·52
1895	10,809	2,365	21·88
1896	10,710	1,956	18·26
1897	12,396	2,724	21·97

A statement is added giving the arrivals and departures for each of the Australasian Colonies during the year 1898. The figures are Mr. Coghlan's, and the result is shown to be a net gain to these colonies of 7,670 persons during the year:—

Colony.	Arrivals.			Departures.			Excess of Arrivals over Departures.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
New South Wales*	89,495	49,613	139,108	86,590	49,285	135,875	2,905	328	3,233
Victoria	64,026	30,410	94,436	70,914	35,784	106,698	−6,888	−5,374	−12,262
Queensland ...	23,999	10,244	34,243	19,013	9,097	28,110	4,986	1,147	6,133
South Australia*	64,245	30,452	94,697	62,783	31,396	94,179	1,462	−944	518
Western Australia	22,683	10,026	32,709	21,769	6,987	28,756	914	3,039	3,953
Tasmania* ...	16,270	7,804	24,074	13,340	7,335	20,675	2,930	469	3,399
New Zealand ...	12,524	6,331	18,855	10,438	5,721	16,159	2,086	610	2,696
Australasia ...	293,242	144,880	438,122	284,847	145,605	430,452	8,395	−725	7,670

* Subject to revision: Coghlan's preliminary figures. − Denotes loss.

NOTE.—In these figures allowance has been made for unrecorded departures.

THE CHINESE.

At the census of 1881, the year in which taxation was first imposed on Chinese landing in the colony, the Chinese population amounted to 5,004 persons, which fell to 4,542 in 1886, and further to 4,444 in 1891. In April, 1896, the census revealed a further fall to 3,711 persons. During the period 1881–96 the poll-tax was £10 per head, and this seemed sufficient for the purpose of preventing a large influx of the Chinese, except for the circumstance that, during the years 1894 and 1895, the arrivals shown by the Customs returns are found to have been somewhat greater than the departures. In 1896, the Chinese Immigrants Act Amendment Act of that year raised the poll-tax on Chinese immigrants to £100 per head, and limited the number of Chinese passengers that may be carried by vessels to this colony to one for every 200 tons burthen. This Act is to remain in force only until "The Asiatic Restriction Act, 1896," which has been, and still is, reserved for Her Majesty's assent, and has a wider scope, comes into operation. In 1896 the amount paid by the Chinese as poll-tax was £1,270, in 1897 the sum was £240, and in 1898 £400. The number of Chinese in the colony at the end of the year 1898 is estimated to have been 3,464, of whom 31 were females.

Chinese immigration is under restraint in Australia as well as in New Zealand. In New South Wales the arrivals have been reduced until the number for 1896 was only 99, against 450 departures, by means of a similar poll-tax to that of New Zealand, and requirement that every vessel should not bring more than one Chinaman to every 300 tons. These conditions are helped by the law which forbids the naturalisation of a Chinese, and some prohibition as to mining without special authority. In 1887 no less than 1,798 Chinese paid poll-tax in New South Wales, and in 1896 the number was only 2.

Of the Chinese living in New Zealand in 1896, when the last census was taken, 3,685 were males and 26 females. Of the males, 88 were returned as married. The number of the Chinese under 14 years of age was only 14 males and 11 females. These numbers do not include the issue of unions between Chinese men and European women.

The occupations show 2,162 gold-miners, 527 market and other gardeners with 129 assistants, 94 greengrocers and 38 assistants, 94 shop- or store-keepers and 30 assistants, 59 labourers, 43 hotel servants; 31 vegetable, 27 general, and 25 fish hawkers; 31 laundrymen and women, 31 domestic servants, 29 lodginghouse keepers, 27 cooks (not domestic), 24 farm-labourers, 19 eating-house keepers, 19 grocers with 21 assistants, 16 fishermen, 11 merchants with 6 assistants, 7 drapers and 1 assistant. Amongst various others, in small numbers each, are returned 1 law-clerk, 2 missionaries, 5 medical men, 1 dentist, 1 chemist, 1 interpreter, 2 bankers, 1 opium-seller. Three of the Chinese were inmates of hospitals, and 3 others of benevolent asylums. While 22 were lunatics, only 2 were prisoners in gaol.

PARTICULARS RESPECTING THE POPULATION GIVEN IN THE CENSUS OF 1896.

The Year-book for 1898 states, in the form of extracts from the Census report, full information as to the density of population in New Zealand, the proportions of the sexes, the religions, birthplaces, ages, and occupations of the people. It is not considered necessary to reprint the figures, or the remarks which accompany them, as these will be found on pages 105 to 115 of the previous issue of this work.

THE HOLLERITH ELECTRICAL MACHINE.

A description of this machine, which is used in some countries for purposes of dealing with the cards by means of which census computations are now usually made, may be found interesting. The machine is not suited for a country like New Zealand, where the population is not very large, and where the combinations required are not of the most elaborate nature. It was tested in Victoria before the census of 1896 was compiled, and the Government decided against it. The question was raised in this colony, whether greater speed could not be achieved by means of the machine, which has led to this explanation. It has been thus described in connection with the Canadian census of 1891:—

"In tabulating the returns, the Hollerith electrical tabulating-machine (which should, perhaps, rather be called a totalling-machine), introduced in the United States, was used. For this purpose, a card, similar in principle to that used in New Zealand, is devoted to each person; but, instead of drawing lines, a hole is punched in the centre of the compartment. Each card is then successively placed on a horizontal board. This board is pierced with holes, corresponding in number to the total number of compartments on the card, and so situated that each hole is under the centre of a compartment. Under each of these holes, again, is a tube partly filled with mercury, which communicates by means of a wire from the bottom of the tube with the index of a counter. Above the card is a second horizontal board, on the lower side of which are springs, terminating in blunted needles, these being so arranged as to dip into the tubes wherever there is a hole in the card, and thus complete an electric circuit wherever the needle meets the mercury. The electric current then moves the index of the counter through one division each time the board is lowered. By passing all the cards through the machine, the number of persons corresponding to each particular fact can be counted at once, and this number is then written on the tabulation-sheets. The machine is so arranged also as to permit of particular needles only reaching the mercury, and thus a combination of two or more particulars can be worked out by merely passing the cards through the machine. Two or three different combinations can be worked out simultaneously, provided that any one particular does not enter more than one of the combinations—*e.g.*, the religion according to education, and the infirmities according to age, could be worked out at the same time. It is, I believe, recognised that the device would not have been of so much value in the United Kingdom and the other colonies, where the number of details required is not so great. Owing to the time occupied in punching the cards as compared with that of ticking the compartments, the economy only begins to be appreciable when the combinations are very numerous."

SECTION II.—VITAL STATISTICS.

BIRTHS.

THE number of births registered in the colony during 1898 was 18,955, or 25·74 in every 1,000 persons living. The rate is lower than that for the preceding year, and indeed since the year 1881 has steadily declined. The number of births registered in a year reached its maximum in 1884, when it stood at 19,846, after which it fell to 17,876 in 1892, rising again to 18,955 in 1898, the number stated previously.

The position still remains, that the increase in the number of marriages solemnised of late years has not as yet had any considerable effect in raising the number of births, and the birth-rate for last year (1898) is the lowest so far recorded in the statistics of the colony.

The figures for each year are worthy of notice, especially in connection with the subsequent particulars given as to marriages solemnised and the growth of population:—

Year.	Number of Births.	Rate per 1,000 of Population.	Year.	Number of Births.	Rate per 1,000 of Population.
1882	19,009	37·32	1891	18,273	29·01
1883	19,202	36·28	1892	17,876	27·83
1884	19,846	35·91	1893	18,187	27·50
1885	19,693	34·35	1894	18,528	27·28
1886	19,299	33·15	1895	18,546	26·78
1887	19,135	32·09	1896	18,612	26·33
1888	18,902	31·22	1897	18,737	25·96
1889	18,457	30·07	1898	18,955	25·74
1890	18,278	29·44			

While this process of a diminishing birth-rate has been going on the marriages have been increasing numerically, and the population of the colony also:—

Year.	Number of Marriages.	Mean Population (excluding Maoris).	Year.	Number of Marriages.	Mean Population (excluding Maoris).
1881	3,277	493,482	1890	3,797	620,780
1882	3,600	509,309	1891	3,805	629,783
1883	3,612	529,292	1892	4,002	642,245
1884	3,800	552,590	1893	4,115	661,349
1885	3,813	573,362	1894	4,178	679,196
1886	3,488	582,117	1895	4,110	692,417
1887	3,563	596,374	1896	4,843	706,846
1888	3,617	605,371	1897	4,928	721,609
1889	3,632	612,716	1898	5,091	736,260

In the year 1881 there were in New Zealand 5·72 births to every marriage in the previous year, and in 1898 the proportion had fallen to 3·85 births to each marriage.

In the Australian Colonies a similar decrease is noticeable. It has been remarked that in all the Australian Colonies the average number of children to a marriage tends to decrease. In Victoria the number for the year 1880 was 4·99, but fell to 4·05 in 1898. In New South Wales the figures are 5·0 and 4·11 for the same years respectively.

New Zealand had in 1880 the highest birth-rate of all the Australasian Colonies (40·78), but now, with the exception of South Australia (24·55) and Victoria (25·73), its birth-rate (25·74) is the lowest.

The fall over eleven years is calculated as under:—

BIRTH-RATES PER 1,000 OF POPULATION.

Colony.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Queensland ..	37·77	36·27	40·95	36·35	35·84	33·73	31·86	32·85	30·06	29·92	28·28
New South Wales	36·18	33·73	35·35	34·50	34·41	32·23	31·47	30·66	28·35	28·42	27·13*
Victoria ..	32·49	32·95	33·60	33·57	32·54	31·25	29·16	28·57	27·33	26·70	25·73*
South Australia ..	33·34	32·37	32·75	33·92	32·32	31·71	30·49	30·23	28·46	2·644	24·55*
Western Australia	35·88	37·14	32·55	34·85	33·01	34·14	27·49	25·62	22·65	26·82	29·35
Tasmania ..	33·10	31·94	33·49	33·37	32·48	33·92	31·13	30·10	28·16	27·73	26·25*
New Zealand ..	31·22	30·07	29·44	29·01	27·83	27·50	27·28	26·78	26·33	25·96	25·74

* Subject to revision: Coghlan's preliminary figures.

With a falling birth-rate, the census taken in 1896 showed lower numbers of each sex living at the period under five years than at the next quinquennial period, which is unsatisfactory, indicating as it does that there are not now sufficient living at the earlier years to maintain the number of those of five years and under ten now found in the tables. The census thus demonstrates the general correctness of the birth-rates, and shows that the results of the statistics are fairly accurate.

From the year 1895 marriages have shown an increase, the rate being then 5·94 per 1,000 of population. In 1898 the rate rose to 6·91, the highest recorded since 1882, when it was 7·07 per 1,000 of mean population. The number of marriages solemnised in 1898 was 5,091, an increase of 163 on the number for 1897.

MARRIAGE RATES IN AUSTRALASIAN COLONIES PER 1,000 OF POPULATION.

	1874.	1886.	1891.	1896.	1898.
Queensland	8·62	8·67	7·18	6·05	6·03
New South Wales ..	7·70	7·99	7·39	6·59	6·66
Victoria	6·33	7·84	7·69	6·48	6·53
South Australia ..	8·00	6·24	7·31	6·20	6·18
Western Australia ..	6·96	7·98	8·00	8·45	9·89
Tasmania	6·83	7·26	6·63	5·88	6·29
New Zealand ..	8·81	5·99	6·04	6·85	6·91

In April, 1891, New Zealand had 83,204 children living under the age of 5 years, and in 1896 the number was 83,659, an increase of only 455, although the population at all ages increased in the quinquennium by 12·24 per cent. Between 1886 and 1891 the children living under 5 years actually decreased in number by 3,624, the increase of population of all ages (8·33 per cent.) being less than between 1891 and 1896 (12·24 per cent.). The number of children under one year to the total population at all ages, according to the results of three censuses, was :—

	Children under One Year.	Total Population (all Ages).
Census, 1886	18,355	578,482
„ 1891	16,443	626,658
„ 1896	17,070	703,360

Thus, in 1886, with a population of 578,482 persons, there were 18,355 children under one year, against 17,070 children of that age in 1896, with a population of 703,360 persons.

The births registered in 1885 were 19,693, against 18,546 in 1895, and the birth-rate fell from 34·35 per 1,000 of the population in the former year to 26·78 in the latter.

Deducting 1,637, the number of deaths of children under one year registered in 1895, from 18,546, the number of births for that year, leaves 16,909, or within 161 of the living children under one year at the time of the last census.

TWIN BIRTHS.

There were 194 cases of twin births (388 children), and triplets were registered in two instances, in 1898. The number of children born was 18,955; the number of mothers was 18,757: thus on an average 1 mother in every 101 gave birth to twins, the same proportion as in 1896 and 1897. In 1895 the proportion was one in 93, and in 1894 one in 103.

ILLEGITIMACY.

The births of 801 children were illegitimate: thus 42 in every 1,000 children born were born out of wedlock, against 44 in 1897 and 1896.

The following table gives the rates of illegitimacy in each of the Australasian Colonies. The rate in New Zealand is less than in any other of the Australasian Colonies except South Australia :—

PROPORTION OF ILLEGITIMATE BIRTHS IN EVERY 100 BIRTHS.

Year.	Queensland.	New South Wales.	Victoria.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1888	4·13	5·08	4·80	2·67	..	3·62	3·05
1889	4·68	5·33	4·97	2·47	..	4·02	3·32
1890	4·85	5·26	5·09	2·50	..	4·05	3·30
1891	4·65	5·36	5·36	2·93	..	3·72	3·49
1892	5·05	5·71	5·59	2·93	5·89	4·75	3·32
1893	4·97	6·16	5·46	2·84	4·17	4·41	3·70
1894	4·52	6·14	5·50	3·05	4·66	5·09	3·80
1895	4·93	6·51	5·33	3·13	4·47	4·97	4·50
1896	5·22	5·71	5·63	3·45	5·61	5·91	4·48
1897	6·02	6·58	5·42	3·53	5·27	5·74	4·41

These figures show a rise in the proportion of illegitimate births to every 100 births for this colony, amounting to 1·36 for the period 1888–97.

The fall in the actual number of all births in New Zealand must not be forgotten when considering the increase in the number of illegitimates. The total number of births registered fell from 19,299 in 1886 to 18,612 in 1896, while the illegitimate births rose from 602 to 834. The causes that led to the fall in the birth-rate certainly did not greatly affect the number of illegitimate children.

ILLEGITIMATE BIRTHS.

	Proportion Illegitimate in every 100 Births.		Total Number of all Births.		Number of Illegitimate Births.	
	1886.	1896.	1886.	1896.	1886.	1896.
The whole Colony	3·12	4·48	19,299	18,612	602	834
Auckland and suburbs ..	4·34	7·23	2,376	1,922	103	139
Wellington and suburbs ..	4·70	8·05	1,341	1,342	63	108
Christchurch and suburbs ..	4·70	7·71	1,872	1,519	88	117
Dunedin and suburbs ..	5·55	7·84	1,585	1,173	88	92

The number of spinsters in the colony between 15 and 45 increased during the ten years from 52,348 (census 1886) to 85,105 (census 1896), or at the rate of 62·6 per cent., while the illegitimate births increased from 602 to 834, or at the rate of 38·5 only.

It would therefore appear that the larger proportion of illegitimate births now obtaining cannot with any certainty be taken as indicative of increased looseness of living on the part of the people.

The following figures, taken from "The Wealth and Progress of New South Wales, 1896–97," showing the rate of illegitimacy per 100 births in the Australasian Colonies and in the United Kingdom, are based on statistics for a period of five years:—

Country.	Illegitimate Births per Cent.	Country.	Illegitimate Births per Cent.
New South Wales ..	6·27	Tasmania	5·01
Victoria	5·50	New Zealand	3·97
Queensland	4·91	England and Wales ..	4·24
South Australia.. ..	3·08	Ireland	2·65
Western Australia ..	5·29	Scotland	7·38

Of the total number of children born in Australasia during the five years ended 1896, 5·22 per cent. were illegitimate, as compared with 4·44 per cent. in the United Kingdom for the period 1891–95.

The figures on the next page, which give the percentages of illegitimate births in a number of foreign countries, also cover a period of five years.

Country	Illegitimate Births per Cent.	Country.	Illegitimate Births per Cent.
Germany	9·15	France	8·67
Prussia	7·75	Belgium	8·81
Bavaria	14·17	Netherlands	3·11
Saxony	12·50	Sweden	10·35
Austria	14·73	Norway	7·09
Hungary	8·49	Italy	6·95

In Scotland, for the year 1895, the proportion of illegitimate births was 13·9 per cent. in Banff, and 14·6 per cent. in Wigtown; but in Ireland the rate varied from 0·7 per cent. in Connaught to 3·9 in Ulster.

THE LEGITIMATION ACT.

An important Act was passed in 1894, entitled the Legitimation Act, which makes provision for the legitimation of children born before marriage on the subsequent marriage of their parents. Under this Act any child born out of wedlock, whose parents afterwards marry, is deemed to be legitimised by such marriage on the birth being registered in the manner prescribed by the Act. For legitimation purposes Registrars must register a birth when called upon to do so by any person claiming to be the father of an illegitimate child; but such person is required to make a solemn declaration that he is the father, and that at the time of the birth there existed no legal impediment to his marriage with the mother of the child. He has also to produce the evidence of his marriage. It will thus be seen that in cases dealt with under the Act registration becomes the test of legitimacy. In the December quarter of 1894, 11 children were legitimised; in 1895 the number was 68; in 1896, 56; in 1897, 48; and in 1898, 59, making altogether 242 legitimations since the passing of the law.

EXCESS PER CENT. OF BIRTHS OVER DEATHS.

The excess per cent. of births over deaths in each of the Australasian Colonies for a mean of ten years, ending with 1894, is stated in the Victorian Year-book as under:—

New Zealand	208	Tasmania	131
South Australia	170	Western Australia ..	116
New South Wales ..	156	Victoria	111
Queensland	142		

BIRTHS AND BIRTH-RATES IN THE FOUR CHIEF CITIES.

The total number of births registered as occurring in the four chief centres and suburbs in 1898 was 4,629, as against 4,408 for the previous year.

The births in the four cities rose from 2,847 in 1897 to 2,878 in 1898, and in the suburban boroughs from 1,561 to 1,751. The birth-rates for 1898 were,—

	Birth-rates per 1,000 of Mean Population.	
Auckland City	26·96	
„ and five suburban boroughs ..		27·53
Wellington City	25·75	
„ and three suburban boroughs ..		26·04
Christchurch City	22·07	
„ and four suburban boroughs ..		24·31
Dunedin City	21·61	
„ and eight suburban boroughs ..		21·88

Thus, by the inclusion of the suburbs the rate is raised at each of the four centres. It will be observed that Auckland has the highest rate, Wellington next highest, Christchurch and Dunedin following with intervals. The difference between the Auckland rate (27·53) and the Dunedin rate (21·88) is very marked. The birth-rate for the whole colony for 1898 was 25·74 per thousand. Auckland and Wellington are thus over the average, Christchurch and Dunedin below it.

Taking the births in the four central boroughs without their suburbs, and comparing the numbers for 1898 and 1897, an increase is observed—at Auckland 10, at Christchurch 14, and at Dunedin 9; and a decrease at Wellington of 2. The figures for the last five years are:—

	1894.	1895.	1896.	1897.	1898.
Auckland (without suburbs) ..	873	888	892	906	916
Wellington „ ..	990	1,000	1,005	1,067	1,065
Christchurch „ ..	400	359	370	376	390
Dunedin „ ..	527	475	498	498	507

The birth-rates recorded for the four central boroughs in 1898 show a rise at Christchurch, 22·07, as against 21·88 for 1897; and at Dunedin, from 21·54 in 1897 to 21·61 in 1898; but a fall at Auckland, from 28·29 to 26·96; and at Wellington, from 27·71 to 25·75. The rates for the years 1894–98 are as follows:—

	Births per 1,000 of Population.				
	1894.	1895.	1896	1897.	1898.
Auckland (without suburbs) ..	27·80	28·04	28·39	28·29	26·96
Wellington „ ..	28·25	28·30	26·84	27·71	25·75
Christchurch „ ..	22·81	20·36	21·81	21·88	22·07
Dunedin „ ..	22·14	19·87	21·83	21·54	21·61

NATURALISATION.

Aliens residing in the colony may, on taking the oath of allegiance to Her Majesty, obtain letters of naturalisation entitling them to enjoy all the rights and privileges that a natural-born subject of the United Kingdom can enjoy or transmit within this colony. One hundred and thirteen aliens (108 men and 5 women) were naturalised in 1898.

The number belonging to each nationality was as under:—

NUMBER OF ALIENS NATURALISED IN 1898.

Natives of—	M.	F.	Natives of—	M.	F.
German Empire	30	1	China	4	0
Norway and Sweden ..	22	0	United States of America..	2	0
Denmark	17	1	Netherlands	2	0
Russia	8	0	Greece	2	0
France	8	0	Switzerland	1	1
Italy	5	2	Belgium	1	0
Austria-Hungary	6	0			

The number of natives of each country naturalised during the last seventeen years is next shown,—

Natives of—		Natives of—	
Germany	1,122	France	66
Sweden and Norway ..	807	Netherlands	33
Denmark	579	Greece	28
China	336	Portugal	20
Italy	134	United States of America ..	19
Switzerland	127	Belgium	14
Russia	139	Other countries	67
Austria	122	Total	3,613

By section 2 of "The Aliens Act Amendment Act, 1882," repealed and re-enacted by section 2 of "The Aliens Act Amendment Act, 1892," it is provided that when the father, or mother being a widow, has obtained naturalisation in the colony, every child who during infancy has become resident with them in New Zealand shall be deemed to be naturalised, and shall have the rights and privileges of a natural-born subject.

MARRIAGES.

The marriages for 1898 show an increase on the number for the previous year. The number was 5,091, or 163 more than in 1897. The marriage-rate rose from 6·83 per 1,000 persons living in 1897 to 6·91 in 1898, the rate for 1898 being the highest obtained since 1882, when it stood at 7·07 per 1,000 persons. The improvement shown during the last three years sets New Zealand in a good position relatively to the colonies in Australia.

The rates for a series of eleven consecutive years were:—

MARRIAGES PER 1,000 OF THE POPULATION.

Year.	Queensland.	New South Wales.	Victoria.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1888 ..	8·63	7·37	8·03	6·70	7·18	6·58	5·97
1889 ..	8·37	6·76	8·14	6·47	6·99	6·50	5·94
1890 ..	8·49	7·14	8·21	7·06	5·80	6·64	6·12
1891 ..	7·18	7·39	7·69	7·31	8·00	6·63	6·04
1892 ..	6·67	6·77	6·64	6·51	7·29	6·51	6·23
1893 ..	5·91	6·40	5·99	6·26	6·34	5·51	6·22
1894 ..	5·70	6·20	5·98	6·09	6·24	5·43	6·15
1895 ..	6·23	6·35	6·00	5·88	6·83	5·32	5·94
1896 ..	6·05	6·59	6·48	6·20	8·45	5·88	6·85
1897 ..	6·05	6·72	6·36	5·46	10·73	6·23	6·83
1898 ..	6·03	6·66	6·53	6·18	9·89	6·29	6·91

But the improved rate for this colony is still lower than the rate for many European countries.

MARRIAGES IN EVERY 1,000 OF THE POPULATION.

German Empire	1896	8·3	Netherlands	1896	7·5
Belgium	1896	8·1	Denmark	1896	7·3
Hungary	1896	8·1	Scotland	1896	7·2
England and Wales	1896	7·9	Italy	1896	7·1
Austria	1896	7·9	Norway	1896	6·7
Switzerland	1896	7·8	Sweden	1895	5·9
Spain	1894	7·8	Ireland	1896	5·0
France	1896	7·5			

Of the marriages solemnised in 1898, 4,628 were between bachelors and spinsters, 148 between bachelors and widows, 211 between widowers and spinsters, and 104 between widowers and widows. Divorced men and women have been classified as bachelors or spinsters: 10 divorced men and 11 divorced women were married during the year.

Included amongst spinsters are twelve married women, and amongst the bachelors three married men, who elected to go through the form of marriage with other persons under the protection of the provisions of section 204, subsection (5), of "The Criminal Code Act, 1893," which runs: "No one commits bigamy by going through a form of marriage if he or she has been continually absent from his or her wife or husband for seven years then last past, and is not proved to have known that his wife or her husband was alive at any time during those seven years."

The total number of marriages solemnized (5,091) does not include marriages where both parties are of the aboriginal native race, such persons being exempted from the necessity of complying with the provisions of the Marriage Act, although at liberty to take advantage thereof. Only seven marriages in which both parties were Maoris were contracted in 1898 in terms of the Act.

BACHELORS AND SPINSTERS IN NEW ZEALAND.

The results of the last three censuses in respect of the number of bachelors of 20 years and upwards, and spinsters of 15 years and upwards, in the colony show some interesting features. While in 1886 there was an excess of bachelors over the spinsters amounting to 12,339 men, in 1891 the census gave an excess of 3,497 only, showing that a process of equalisation had been going on. But by 1896 not only had the preponderance of the male element been lost, but an excess of spinsters over bachelors was reported amounting to 1,786 women.

It is curious to notice how differently the numbers for the Provincial Districts have been affected by the process in operation. An excess of bachelors was preserved in Auckland, Taranaki, Hawke's Bay, Wellington, Marlborough, Nelson, and Westland from 1886 to 1896, but in all these cases except Taranaki it diminished very much. In Canterbury, however, an excess of spinsters was found in 1886 of 910, which increased to 2,516 in 1891, and to 3,997 in 1896; while in Otago an excess of 2,359 bachelors in 1886 changed to an excess of 773 spinsters in 1891, which increased to 2,066 in 1896: these two important districts of the South Island losing large numbers of bachelors by departures to the North Island.

Provincial Districts.	Census, 1886.		Census, 1891.		Census, 1896.	
	Excess of Bachelors over Spinsters.	Excess of Spinsters over Bachelors.	Excess of Bachelors over Spinsters.	Excess of Spinsters over Bachelors.	Excess of Bachelors over Spinsters.	Excess of Spinsters over Bachelors.
Total excess ..	12,339	..	3,497	..	..	1,786
Auckland ..	2,996	..	156	..	703	..
Taranaki ..	242	..	121	..	524	..
Hawke's Bay ..	1,809	..	1,337	..	1,142	..
Wellington ..	2,225	..	2,129	..	637	..
Marlborough ..	607	..	644	..	183	..
Nelson	1,524	..	1,486	..	580	..
Westland ..	1,479	..	900	..	501	..
Canterbury ..	..	910	..	2,516	..	3,997
Otago	2,359	..	..	773	..	2,066
Chatham Islands	8	..	15	..	7	..
Kermadec Islands	..	..	..	2	..	..

MARRIAGES BY MINISTERS OF VARIOUS DENOMINATIONS.

Of the marriages in the year 1898, 23·37 per cent. were solemnised by ministers of the Church of England, 26·02 per cent. by ministers of the Presbyterian Churches, 13·98 per cent. by ministers of the Wesleyan and other Methodist Churches, 10·37 per cent. by ministers of the Roman Catholic Church, 9·25 per cent. by ministers of other denominations, and 17·01 per cent. by Registrars.

The following shows the proportions of marriages by ministers of the principal denominations in the past seven years, and the percentages of these denominations to the total population:—

Denomination.	Percentage of Marriages.							Percentage of Denomination to Total Population in 1896.
	1892.	1893.	1894.	1895.	1896.	1897.	1898.	
Church of England ..	20·78	23·06	22·86	22·74	22·86	23·00	23·37	40·27
Presbyterians ..	29·38	26·58	25·30	24·32	25·01	25·44	26·02	22·78
Wesleyans and other Methodists	14·82	16·13	15·99	15·69	17·92	17·61	13·98	10·45
Roman Catholics ..	9·74	8·99	10·08	11·19	10·26	10·12	10·37	14·07
Other denominations	6·34	6·66	6·65	7·29	6·05	5·86	9·25	12·43
By Registrars ..	18·94	18·58	19·12	18·77	17·90	17·97	17·01	..
	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00

Marriage by the Registrar is found to be rather less frequent than it was six years ago, the percentage falling from 18·94 in 1892 to 17·01 in 1898.

MARRIAGE REGISTER SIGNED BY MARK.

Of the men married in 1898, 37, or 7·27 in every 1,000, and of the women (three of whom were Chinese) 39, or 7·66 per 1,000, signed the register by marks.

The illiteracy of the people, as measured by the proportion of married persons who affix marks instead of signatures to the marriage register, has greatly decreased of late, having fallen since 1881 from 32·04 per 1,000 among men to 7·27 per 1,000, and from 57·98 per 1,000 to 7·66 per 1,000 among women. This is shown in a very striking manner by the following table:—

PERSONS IN EVERY 1,000 MARRIED WHO SIGNED BY MARK.

Denomination.	1881.		1891.		1898.	
	M.	F.	M.	F.	M.	F.
Church of England	16·59	27·15	8·29	10·66	3·36	1·68
Presbyterians	10·25	29·61	5·79	8·69	0·75	3·02
Wesleyans and other Methodists	32·41	41·79	8·93	10·71	3·45	6·90
Roman Catholics	117·78	133·33	31·33	18·28	15·15	11·36
Other denominations	10·36	20·72	9·26	..	..	3·18
By Registrars	39·22	93·51	27·42	43·08	24·25	23·09
Total marriages	32·04	57·98	13·93	16·82	7·27	7·66

The proportion of illiterates in 1898 was greatest among those married before Registrars. Previously the proportion was largest among Roman Catholics; but since 1881 it has, as shown by the table, most remarkably decreased.

AGES OF PERSONS MARRIED.

Of the persons married in 1898, 80 bridegrooms and 923 brides were under 21 years of age—two of the bridegrooms were between 17 and 18 years of age, and nine between 18 and 19. Of the brides, one was under 15 years of age, two were between 15 and 16, and thirty between 16 and 17 years of age. The proportion of men married is greatest at the ages of 25 to 30, and of women at from 21 to 25 years.

The following are the proportions of men and women married at each age-period to every 100 marriages in the years 1888, 1897, and 1898:—

Age.	1896.		1897.		1898.	
	M.	F.	M.	F.	M.	F.
Under 21 years	1·85	24·30	1·62	18·65	1·57	18·13
21 and under 25	28·17	42·05	25·19	41·25	24·45	40·86
25 " 30	33·81	21·15	38·82	26·56	39·29	27·32
30 " 40	26·02	8·98	25·99	10·52	25·97	10·53
40 " 50	6·69	2·74	5·28	2·13	5·60	2·12
50 " 60	2·52	0·61	2·25	0·67	2·04	0·86
60 " 70	0·88	0·14	0·67	0·20	0·90	0·18
70 and upwards	0·06	0·03	0·18	0·02	0·18	..

Registrars of Marriages are prohibited by law from issuing certificates for the marriage of minors without the consent of their parents or lawful guardians, if there be any in the colony. If a declaration be made in any case that there is no parent or lawful guardian in the colony, then a certificate may be issued after the expiration of fourteen days following the date on which the notice of intended marriage is given.

A marriage may not be solemnised except after the delivery to the minister or Registrar who officiates of a certificate issued by a Registrar authorising such marriage, and if any persons knowingly and wilfully intermarry without such certificate the marriage is null and void; and no clergyman or minister of any denomination is empowered to solemnise marriages until his name has been placed on the Registrar-General's list of officiating ministers for the year.

The ages at which persons may contract binding marriages are the same as in England—12 years for females and 14 for males. Marriage may be contracted at earlier ages than those stated, but would be voidable at the discretion of either of the parties upon reaching the age of 12 or 14, as the case may be, and without the necessity of proceedings in Court.

Although in New Zealand the age at which girls may legally marry is as above; nevertheless, by the criminal law, to unlawfully carnally know a girl under the age of 16 years is now a punishable offence. The age of consent was raised from 15 to 16 by statute passed in 1896.

The average age of the men married in this colony in 1898 was 29·95 years, and of the women, 25·30 years. In England the mean age of those whose ages were stated was (in the year 1894) 28·41 years for men, and 26·15 years for women. Thus the average age at marriage in the colony is higher for men, but lower for women, than in England.

The proportion of bridegrooms under 21 is much greater in England than in New Zealand; but the proportion of brides under 21 is greater in the colony.

In England, in 1891–95, of every 1,000 bridegrooms whose ages were stated, 56 were under 21 years of age, and of every 1,000 brides 183 were under 21 years of age. In New Zealand, in 1898, the proportions were 16 bridegrooms and 181 brides of similar ages in every 1,000 married :—

Year.	Bridegrooms under 21 in every 100.	Brides under 21 in every 100.
1884	1·87	27·10
1886	1·95	26·09
1888	1·85	24·30
1890	1·89	22·75
1892	1·62	20·14
1894	1·44	19·53
1896	1·96	19·51
1897	1·62	18·64
1898	1·57	18·13

Number of Ministers.

The number of the clergy enumerated at the census of 1896 was 777. In 1891 the number returned was 732. Besides the regular clergy, there were, in 1896, 11 Mormon missionaries and 221 Salvation Army officers, of whom 112 were females; also 17 evangelists, 52 missionaries (11 women), and 45 preachers. The number of names on the list of officiating ministers under the Marriage Act is (March, 1899) 923, and the denominations to which they belong are shown hereunder.

Number of Officiating Ministers, 31st March, 1899.

Denomination.	No.
Church of England	304
Presbyterian Church of New Zealand	117
Presbyterian Church of Otago and Southland	84
Roman Catholic Church	159
Wesleyan Methodist Church	138
Congregational Independents	19
Baptists	25
Primitive Methodist Connexion	32
Lutheran Church	10
Hebrew Congregations	5
Church of Christ	8
Independent Wesleyan	1
Brethren	1
The New Church	1
The Forward Movement	1
Salvation Army	7
Catholic Apostolic Church	3
Seventh-day Adventists	4
Conditional Immortalitists	1
Christchurch Central Mission	1
The Union Free Church	1
The Newtown Christian Mission	1
Total	923

There were, at the time of the census, 25 theological students, 72 church officers such as sextons and others, and 82 members of religious orders not ministering to charity or education.

Deaths.

The deaths in 1898 numbered 7,244, being equivalent to a rate of 9·84 in every 1,000 persons living. The rate is slightly higher than that obtaining in 1897 (9·14). The lowest experienced since the year 1887, when the deaths were 10·29 per 1,000 of the population, was that for 1896 (9·10).

The death-rate in New Zealand contrasts very favourably with that in the other Australasian Colonies and in European countries, as will be seen by the figures given for a series of years :—

Country.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
New Zealand	9·66	10·35	10·06	10·23	10·19	9·91	9·10	9·14	9·84
Queensland	14·98	12·77	12·66	13·34	12·08	11·38	12·10	11·33	12·67
New South Wales	12·90	14·24	13·22	13·25	12·30	11·79	12·43	10·89	12·48†
Victoria	16·10	16·24	13·63	14·11	13·13	13·25	13·34	12·87	15·94
South Australia*	12·40	13·26	11·38	13·42	11·64	11·25	11·48	11·18	12·95†
Western Australia	11·26	16·96	16·63	15·27	14·00	17·32	16·45	17·63	16·05
Tasmania	14·74	15·00	13·53	13·47	12·43	11·38	11·68	11·53	13·52
England and Wales ..	19·5	20·2	19·0	19·2	16·6	18·7	17·1	..	..
Scotland	19·7	20·7	18·6	19·5	17·2	19·7	16·9	..	..
Ireland	18·2	18·4	19·4	17·9	18·2	18·4	16·6	..	..
Denmark	19·0	20·0	19·4	18·9	17·5	16·9	15·7	..	..
Norway	17·9	17·5	17·8	16·3	16·9	15·6	15·2	..	..
Sweden	17·1	16·8	17·9	16·8	16·4	15·2	..	..	..
Austria	29·4	28·2	28·8	27·2	27·8	27·6	26·4	..	..
Hungary	32·4	33·1	35·0	31·1	30·4	29·6	28·8	..	..
Switzerland	21·0	20·7	19·2	20·4	20·5	19·7	18·4	..	..
German Empire	24·4	23·4	24·1	24·6	22·3	22·2	20·8	..	..
Netherlands	20·5	20·7	21·0	19·2	18·5	18·6	17·2	..	..
France	22·6	22·6	22·6	22·8	21·2	22·3	20·2	..	..
Italy	26·4	26·2	26·3	25·3	25·1	25·2	24·2	..	..

* Excluding the Northern Territory.
† Subject to revision: Coghlan's preliminary figures.

In this statement New Zealand is conspicuous as showing the lowest death-rate. The rates for the principal colonies in Australia are a little higher, but still far below those for the United Kingdom or the European Continental States mentioned in the table.

DEATHS AND DEATH-RATES OF THE FOUR PRINCIPAL CITIES AND THEIR SUBURBS.

In the earlier annual reports on the vital statistics of the four chief towns the central boroughs alone were dealt with, particulars respecting the suburbs not having been obtained. But this omission was held to be a grave defect, as the suburban death-rate may differ much from the death-rate at the centre. Steps were therefore taken early in 1895 to collect statistics of the suburban boroughs as well as of the four chief cities. As regards Auckland and Christchurch, the whole of the area usually recognised as suburban has not yet been brought under municipal government, and the statistics given below do not deal with such portions as still remain in road districts. The omission, however, is not very important, for there are in either case quite enough suburbs included within borough boundaries to give a fair idea of the death-rate of greater Auckland and greater Christchurch. As further boroughs are formed the vital statistics will be made to include them.

The total number of deaths registered for the four centres in 1898 was 2,203—viz., 1,489 in the cities, and 714 in the suburbs. In 1897 the number was 2,013: 1,378 in the cities, and 635 in the suburbs.

By including the suburbs the death-rate for last year is lowered at each of the four centres, the difference being most noticeable in Auckland and Dunedin. The rates for the year are:—

	Death-rates per 1,000 of mean Population.	
Auckland City	14·22	
" and five suburban boroughs ..		13·13
Wellington City	12·47	
" and three suburban boroughs ..		11·94
Christchurch City	10·87	
" and four suburban boroughs ..		10·63
Dunedin City	12·73	
" and eight suburban boroughs ..		11·65

MORTALITY AT FOUR CENTRES, INCLUDING SUBURBS.

If the suburbs are included, the death-rate is found to be highest in Auckland and lowest in Christchurch; Wellington and Dunedin taking second and third places respectively. The death-rate for the colony was 9·84 per 1,000 of mean population. The four centres, as might be expected, each show a higher average than this.

If the number of deaths of infants under one year be excluded, the mortality among the rest of the population is found to have been for 1897 and 1898 in the following ratio to the 1,000 living:—

	1897.	1898.
Auckland (including suburbs)	8·97	8·97
Wellington "	8·79	8·52
Christchurch "	9·17	8·40
Dunedin "	9·28	9·90

The degree of infantile mortality is perhaps best shown in the proportion of deaths of children under one year of age to every 100 births. For 1897 and 1898 the proportions at the chief centres were,—

	1897.	1898.
Auckland (including suburbs)	12·54	15·10
Wellington "	9·84	13·11
Christchurch "	11·25	9·16
Dunedin "	6·30	8·01

Thus the proportion at Dunedin is little more than half that found at Auckland. Again, the percentage of deaths of children under 5 to the total number of deaths is: in Auckland, 36·99; in Wellington, 34·61; in Christchurch, 25·05; in Dunedin, only 18·71. The total of deaths under 5 is 642, or 29·14 per cent. of all deaths, as against 541 and 26·88 for 1897. The deaths of persons of 65 and upwards numbered 506 last year; in 1897 they were 442.

MORTALITY AT FOUR CENTRES, EXCLUDING SUBURBS.

Excluding suburbs, and dealing with the deaths at all ages in the four cities or central boroughs only, the rates for 1898 are found to be higher in Auckland, Wellington, and Dunedin than in the previous year, but lower in Christchurch. The total number of deaths, and the death-rates, for four years are given :—

Cities (excluding Suburbs).	Deaths, 1895.		Deaths, 1896.		Deaths, 1897.		Deaths, 1898.	
	No.	Per 1,000 of Population.	No.	Per 1,000 of Population.	No.	Per 1,000 of Population.	No.	Per 1.000 of Population.
Auckland ..	471	14·87	453	14·42	416	12·99	483	14·22
Wellington ..	462	13·07	434	11·59	463	12·03	516	12·47
Christchurch ..	191	10·83	195	11·49	226	13·15	192	10·87
Dunedin ..	244	10·21	219	9·60	273	11·81	298	12·73

By omitting the deaths of infants under one year, and calculating the rate on the population of one year of age and upwards, the position of the four cities as regards magnitude of death-rate is altered materially, Dunedin now taking first place.

	Deaths per 1,000 of Population, excluding Infants (under One Year of Age).			
	1895.	1896.	1897.	1898.
Auckland (excluding suburbs) ..	11·02	10·02	9·64	9·86
Wellington „ ..	9·84	9·17	9·35	9·18
Christchurch „ ..	8·70	8·86	10·65	8·85
Dunedin „ ..	9·67	8·07	10·70	10·87

Subjoined is a table showing the rates of infant mortality in the four cities for each of the past five years, together with the mean rates for the period. In respect of both last year's rate and the mean rate Auckland stands first, and Dunedin fourth.

	Deaths of Children under One Year to every 100 Births.					
	1894.	1895.	1896.	1897.	1898.	Mean of Five Years.
Auckland (excluding suburbs) ..	15·12	14·86	16·48	12·80	17·14	15·28
Wellington „ ..	9·49	12·40	10·05	10·59	13·71	11·25
Christchurch „ ..	9·00	11·14	12·97	12·50	10·00	11·12
Dunedin „ ..	8·73	9·47	7·83	6·22	9·66	8·38

Causes of Death at Four Centres, including Suburbs.

While treating of the death-rates at the chief cities and surroundings, it is desirable to refer to the causes of mortality, which is done in the remarks that follow. The deaths for the whole colony, classified according to their cause, are treated of at length a little further on.

Specific Febrile and Zymotic Diseases (at Four Chief Centres).

The mortality from these diseases at Auckland, Wellington, and Dunedin, with their suburbs, was much higher in 1898 than in 1897. Growth of population can only be said to account for a small part of the increase. At Christchurch the deaths for last year by zymotic diseases were fewer than in the former year, the total deaths in this class for the four towns being 304 for 1898 and 201 for 1897.

Deaths from Febrile and Zymotic Diseases.

	Auckland and Suburbs.	Wellington and Suburbs.	Christchurch and Suburbs.	Dunedin and Suburbs.
1897 ..	82 ..	39 ..	56 ..	24
1898 ..	117 ..	99 ..	44 ..	44

Of the above, diarrhœal diseases caused most deaths in 1898 at the four centres taken together, the total number being 124. Influenza came next with 70 deaths, typhoid fever contributed 38, measles 28, diphtheria 10, and other zymotic complaints 34.

Comparison of the deaths for each city shows,—

Zymotic, &c., Diseases.	Auckland and Suburbs.		Wellington and Suburbs.		Christchurch and Suburbs.		Dunedin and Suburbs.	
	1897.	1898.	1897.	1898.	1897.	1898.	1897.	1898.
Diarrhœal diseases ..	49	59	22	36	24	14	6	15
Influenza	12	14	2	21	16	17	9	18
Typhoid fever ..	12	22	7	12	4	4	1	..
Measles	..	7	..	15	..	2	..	4
Diphtheria	4	3	1	2	6	3	1	2
Scarlet fever ..	1	..	..	..	..	..	..	..
Other zymotic diseases	4	12	7	13	6	4	7	5

The higher figures for Wellington, relating to the year 1898, in respect of diarrhœa, influenza, and measles are very noticeable.

Parasitic Diseases (at Four Chief Centres).

Hydatids were fatal at Auckland (1 death) and Dunedin (2). These, with 1 death from thrush, make the total of 4.

Dietetic Diseases (at Four Chief Centres).

These numbered 23, of which 17 were attributed to intemperance.

Constitutional Diseases (at Four Chief Centres).

From these, deaths at the four towns numbered 467 in 1898. The first in importance of these diseases, and of all causes of death, is tubercle. The figures for 1897 and 1898 show 257 and 249 deaths for each year respectively.

Phthisis and other Tubercular Diseases (at Four Chief Centres).

	1897.		1898.	
	Phthisis.	Other Tubercular Diseases.	Phthisis.	Other Tubercular Diseases.
Auckland and suburbs ..	51 ..	12 ..	48 ..	3
Wellington " ..	47 ..	12 ..	50 ..	12
Christchurch " ..	45 ..	3 ..	49 ..	5
Dunedin " ..	67 ..	20 ..	61 ..	21
	210	47	208	41

The mortality from tubercular diseases for 1898 was 11·30 per cent. of the total deaths at the four boroughs from all causes.

Deaths from cancer increased at the chief towns from 129 in 1897 to 160 in 1898. The latter number is 7·26 per cent. of deaths for the year from all causes.

Diabetes showed 18 deaths, against 12 in 1897.

Developmental Diseases (at Four Chief Centres).

There were 191 deaths; 80 of which were from premature birth and 92 from old age.

Local Diseases (at Four Chief Centres).

Deaths in this class were only 10 more than in 1897, the figures being 1,012 against 1,002. Diseases of the respiratory system showed 250 deaths for 1898, or about one-fourth of the whole mortality in the class, against 210 in the former year. Bronchitis, pneumonia, congestion of lungs, pleurisy, and allied diseases form this group.

Under the head of diseases of the digestive system there were 181 deaths at the four centres, including 49 from enteritis; gastritis, 13; cirrhosis of liver, 15; hepatitis, 8; and dentition, 15.

Diseases of the urinary system showed 70 deaths. The remaining deaths were: 230 from nervous diseases, 4 of organs of special sense, 234 of organs of the circulatory system, 6 of the lymphatic, 26 of the reproductive system, 7 of the organs of locomotion, and 4 of the integuments.

Violent Deaths (at Four Chief Centres).

There were 101 violent deaths at the cities and suburbs, 75 of which were accidental. Six were caused by fractures, and 13 by falls. In 7 cases death resulted from the deceased being run over by bicycle, cart, engine, tram, or train. Eight deaths were from burning, 12 by drowning, 9 suffocation, 2 poisoning, 1 misadventure with chloroform; besides 6 from accident at birth, and 11 others.

Of 24 suicides, 8 were by shooting, 5 by cutting throat, &c., 4 by poison, 5 by hanging, 1 by dynamite, and 1 by jumping from a bridge.

VITAL STATISTICS OF AUSTRALASIAN CAPITALS, 1897–98.

The vital statistics of the chief cities, *with their suburbs*, of the Australasian Colonies, using the latest figures to hand, show that the death-rate in Wellington (N.Z.) for 1898 was considerably lower than that of Melbourne, Sydney, or Adelaide, for the same year. The rate in Hobart and suburbs for 1897 was higher than that of Wellington for 1898, but the proper comparison of both towns for the same period cannot be made yet.

Capital Cities (including Suburbs).	Estimated Mean Population.	Births.		Deaths.		Excess of Births over Deaths.
		Total Number.	Rate per 1,000 of Population.	Total Number.	Rate per 1,000 of Population.	
Melbourne, 1898..	464,590	12,016	25·86	8,523	18·35	3,493
Sydney, 1898..	422,100	11,901	28·19	6,365	15·08	5,536
Adelaide, 1898..	146,870	3,927	26·74	2,542	17·31	1,385
Brisbane, 1897..	103,323	3,349	32·41	1,219	11·80	2,130
Perth, 1897..	36,049	1,072	29·74	782	21·69	290
Hobart, 1897..	38,528	865	22·45	571	14·82	294
Wellington, 1898..	45,998	1,198	26·04	549	11·94	649

DEATHS IN THE WHOLE COLONY AT VARIOUS AGE-PERIODS.

The average age at death of persons of either sex, in each of five years, was as follows :—

	Males.	Females.
1894	36·64 years	31·59 years.
1895	36·21 "	30·17 "
1896	36·80 "	32·41 "
1897	38·80 "	34·77 "
1898	39·29 "	35·69 "

Subjoined is a classified statement of the deaths of infants under one year during 1898, with the ratio of the deaths in each class to the 1,000 births during the year :—

Year.	Sex.	Under 1 Month.	1 and under 3 Months.	3 and under 6 Months.	6 and under 12 Months.	Total under 12 Months.
		NUMBER OF DEATHS.				
1898 ..	Male	324	157	182	197	860
	Female	249	132	124	145	650
		DEATHS TO THE 1,000 BIRTHS.				
1898 ..	Male	33·69	16·33	18·93	20·49	89·44
	Female	26·66	14·13	13·28	15·52	69·59

Eighty-nine out of every thousand of male children born, and seventy of every thousand females, are found to have died before attaining the age of one year. The mortality is thus one in eleven of male children and one in fourteen of females, even in New Zealand, where conditions are far more favourable to infant life than in Australia, at least as far as relates to the cities.

It will also be seen from the figures that the chances of living during the first year of age are far greater for female than for male infants. Thus, during the year 1898 there were—

100	deaths of males to	79	deaths of females	under 1 month of age;
100	"	86	"	from 1 to 3 months of age;
100	"	70	"	from 3 to 6 months of age;
100	"	76	"	from 6 to 12 months of age;
100	"	78	"	under 12 months of age.

The rates of infantile mortality—that is, the proportion the deaths of children under one year of age bear to the births—are, as previously stated, higher in the Australian Colonies than in New Zealand. The following table gives the rate in the several colonies named for each of the ten years, 1883–92 :—

NUMBER OF DEATHS OF CHILDREN UNDER ONE YEAR OF AGE TO EVERY 100 BIRTHS.

Year.	Queensland.	New South Wales.	Victoria.	South Australia.	Tasmania.	New Zealand.
1883 ..	13·34	11·48	11·44	14·56	12·39	10·39
1884 ..	14·74	12·62	11·37	13·42	9·98	7·93
1885 ..	14·85	13·12	12·57	11·34	11·26	8·92
1886 ..	12·59	12·85	12·73	12·62	10·48	9·84
1887 ..	11·29	10·59	13·00	11·12	10·09	9·38
1888 ..	12·07	11·09	12·75	9·59	9·43	7·07
1889 ..	13·62	12·50	15·21	9·42	10·64	7·89
1890 ..	10·05	10·45	11·74	9·65	10·55	7·87
1891 ..	10·12	11·89	12·62	9·09	9·45	9·12
1892 ..	10·68	10·60	10·68	9·67	9·91	8·92

CAUSES OF DEATH (THE WHOLE COLONY).

The deaths registered in the colony during the last five years, when distributed among the several classes according to their assigned causes, give the rates shown hereunder:—

Causes of Death.	Rate per 10,000 living.				
	1894.	1895.	1896.	1897.	1898.
Zymotic diseases	14·12	11·24	10·24	8·44	10·99
Parasitic diseases	0·32	0·36	0·24	0·18	0·37
Dietetic diseases	0·63	0·81	0·86	0·84	0·87
Constitutional diseases	19·42	18·95	17·06	17·99	18·81
Developmental diseases	8·04	7·12	7·25	7·46	8·80
Local diseases	45·22	48·60	43·31	45·30	46·86
Violence	10·26	8·62	8·32	7·55	7·43
Ill-defined and not-specified causes ..	3·84	3·42	3·72	3·63	4·26
All causes	101·85	99·12	91·00	91·39	98·39

Forty-eight in every one hundred deaths in 1898 were from local diseases, of which diseases of the respiratory system formed 12 per cent., diseases of the circulatory system and of the nervous system 11 per cent. (each), while diseases of the digestive system contributed 8 per cent. Constitutional diseases, including, with others, phthisis and cancer, comprised 19 per cent. of the total mortality. Eleven per cent. of deaths were from zymotic causes, including 6·21 per cent. from miasmatic diseases, and 3·80 per cent. from diarrhœal. Deaths from developmental diseases come next in proportion, being 8·95 per cent. of the whole, and are closely followed by violent deaths, 7·55 per cent.

Causes of Death.	Number of Deaths.			Proportion to Total Deaths.			Proportion per 10,000 living, 1898.	Proportion per 10,000 living, 1897.
	Male.	Female.	Total.	Male.	Female.	Total.		
Class I. Specific febrile or zymotic diseases,—				Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Order 1. Miasmatic diseases	253	197	450	5·91	6·65	6·21	6·11	3·90
„ 2. Diarrhœal diseases	162	113	275	3·79	3·81	3·80	3·74	3·56
„ 3. Malarial diseases	...	...	...	...	..	...	...	0·01
„ 4. Zoogenous diseases	...	...	...	...	...	...	...	...
„ 5. Venereal diseases	16	13	29	0·37	0·44	0·41	0·39	0·35
„ 6. Septic diseases	19	36	55	0·44	1·21	0·75	0·75	0·62
Total Class I.	450	359	809	10·51	12·11	11·17	10·99	8·44
Class II. Parasitic diseases	15	12	27	0·35	0·41	0·37	0·37	0·18
Class III. Dietetic diseases	44	20	64	1·03	0·67	0·88	0·87	0·84
Class IV. Constitutional diseases	742	643	1,385	17·34	21·69	19·12	18·81	17·99
Class V. Developmental diseases	343	305	648	8·01	10·29	8·95	8·80	7·46
Class VI. Local diseases,—								
Order 1. Diseases of nervous system	465	315	780	10·86	10·63	10·77	10·59	10·38
„ 2. Diseases of organs of special sense	6	7	13	0·14	0·24	0·18	0·18	0·10
„ 3. Diseases of circulatory system	489	287	776	11·43	9·68	10·71	10·54	10·39
„ 4. Diseases of respiratory system	525	311	836	12·27	10·49	11·54	11·36	11·09
„ 5. Diseases of digestive system	345	250	595	8·06	8·43	8·22	8·08	7·86
„ 6. Diseases of lymphatic system	13	24	37	0·30	0·81	0·51	0·50	0·41
„ 7. Diseases of urinary system	172	102	274	4·02	3·44	3·78	3·72	3·28
„ 8. Diseases of reproductive system,—								
(*a.*) Of organs of generation	...	26	26	...	0·88	0·36	0·35	0·36
(*b.*) Of parturition	...	72	72	...	2·43	0·99	0·98	0·89
„ 9. Diseases of locomotive system	14	10	24	0·33	0·34	0·33	0·33	0·29
„ 10. Diseases of integumentary system	12	5	17	0·28	0·17	0·24	0·23	0·25
Total Class VI.	2,041	1,409	3,450	47·69	47·54	47·63	46·86	45·30
Class VII. Violence,—								
Order 1. Accident or negligence	385	78	463	9·00	2·63	6·39	6·29	6·66
„ 2. Homicide	4	2	6	0·09	0·07	0·08	0·08	0·10
„ 3. Suicide	66	10	76	1·54	0·34	1·05	1·03	0·76
„ 4. Execution	2	...	2	0·05	...	0·03	0·03	0·03
Total Class VII.	457	90	547	10·68	3·04	7·55	7·43	7·55
Class VIII. Ill-defined and not-specified causes	188	126	314	4·39	4·25	4·33	4·26	3·63
Grand totals	4,280	2,964	7,244	100·00	100·00	100·00	98·39	91·39

The next table shows, for either sex, the number of deaths from each cause registered during the year 1898:—

CAUSES OF DEATH.

Class.	Causes of Death. Orders and Diseases.	Males.	Females.	Total.
I.—Specific Febrile or Zymotic Diseases.	ORDER 1.—*Miasmatic.*			
	Small-pox	...	...	...
	Chicken-pox	...	...	...
	Measles	31	25	56
	Epidemic rose-rash, rubeola	...	1	1
	Scarlet fever, scarlatina	1	1	2
	Typhus	...	...	...
	Dengue	...	...	...
	Relapsing fever	...	...	...
	Influenza	127	92	219
	Whooping-cough ...	4	2	6
	Mumps	...	...	...
	Diphtheria	21	24	45
	Cerebro-spinal fever ...	...	...	...
	Simple and ill-defined fever	...	1	1
	Enteric fever, typhoid ...	69	51	120
	Other miasmatic diseases	...	...	...
	Total Order 1 ...	253	197	450
	ORDER 2.—*Diarrhœal.*			
	Simple cholera	16	8	24
	Diarrhœa	137	99	236
	Dysentery	9	6	15
	Total Order 2 ...	162	113	275
	ORDER 3.—*Malarial.*			
	Remittent fever... ...	...	...	...
	Ague	...	...	...
	Beriberi	...	...	...
	Total Order 3 ...	...	...	...
	ORDER 4.—*Zoogenous.*			
	Hydrophobia	...	...	...
	Glanders	...	...	...
	Splenic fever	...	...	...
	Cow-pox and other effects of vaccination... ...	...	...	...
	Total Order 4 ...	...	...	...
	ORDER 5.—*Venereal.*			
	Syphilis	14	13	27
	Gonorrhœa, stricture of urethra, ulcer of groin	2	...	2
	Total Order 5 ...	16	13	29
	ORDER 6.—*Septic.*			
	Phagedæna	...	...	...
	Erysipelas	6	6	12
	Pyæmia, septicæmia ...	13	11	24
	Puerperal fever, pyæmia, septicæmia	...	19	19
	Total Order 6 ...	19	36	55
	Total Class I. ...	450	359	809
II.—Parasitic Diseases.	Thrush	4	2	6
	Other diseases from vegetable parasites ...	...	...	...
	Hydatid disease ...	11	9	20
	Worms	...	1	1
	Other diseases from animal parasites	...	...	...
	Total Class II. ...	15	12	27
III.—Dietetic Diseases.	Starvation	3	2	5
	Want of breast-milk ...	3	4	7
	Scurvy	2	...	2
	Intemperance—			
	Chronic alcoholism ...	28	9	37
	Delirium tremens ...	2	...	2
	Other dietetic diseases ...	6	5	11
	Total Class III. ...	44	20	64
IV.—Constitutional Diseases.	Rheumatic fever ...	11	19	30
	Rheumatism	10	13	23
	Gout	3	...	3
	Rickets	...	3	3
	Cancer	263	208	471
	Tabes mesenterica, tubercular peritonitis ...	30	19	49
	Tubercular meningitis, acute hydrocephalus ...	35	40	75
	Phthisis	322	275	597
	Other forms of tuberculosis, scrofula	26	22	48
	Purpura, hæmorrhagic diathesis	2	1	3
	Anæmia, chlorosis, leucocythæmia	10	14	24
	Diabetes mellitus ...	24	24	48
	Other constitutional diseases	6	5	11
	Total Class IV. ...	742	643	1,385
V.—Developmental Diseases.	Premature birth ...	132	119	251
	Atelectasis	4	7	11
	Cyanosis	8	5	13
	Spina bifida	4	3	7
	Imperforate anus ...	...	1	1
	Cleft palate, hare-lip ...	...	...	...
	Other congenital defects	12	10	22
	Old age	183	160	343
	Total Class V. ...	343	305	648
VI.—Local Diseases.	ORDER 1.—*Diseases of Nervous System.*			
	Inflammation of the brain or its membranes	58	41	99
	Cerebro-spinal meningitis	...	5	5
	Apoplexy	135	83	218
	Softening of brain ...	11	7	18
	Hemiplegia, brain paralysis	20	21	41

CAUSES OF DEATH—*continued.*

Class.	Causes of Death.	Males.	Females.	Total.
	Orders and Diseases.			
VI.—LOCAL DISEASES—*continued.*	ORDER 1.—*Diseases of Nervous System*—contd.			
	Paralysis (undescribed)...	47	32	79
	Paralysis agitans ...	1	1	2
	Insanity, general paralysis of insane	35	18	53
	Chorea	...	...	...
	Epilepsy	21	16	37
	Convulsions	67	50	117
	Laryngismus stridulus ...	...	1	1
	Idiopathic tetanus ...	1	1	2
	Paraplegia, diseases of spinal cord	24	12	36
	Locomotor ataxia ...	9	2	11
	Other diseases of nervous system	36	25	61
	Total Order 1 ...	465	315	780
	ORDER 2.—*Diseases of Organs of Special Sense.*			
	Otitis, otorrhœa... ...	6	6	12
	Epistaxis, and diseases of nose	...	1	1
	Ophthalmia, and diseases of eye	...	...	...
	Total Order 2 ...	6	7	13
	ORDER 3.—*Diseases of Circulatory System.*			
	Endocarditis, valvular disease	328	193	521
	Pericarditis	2	3	5
	Hypertrophy of heart ...	2	1	3
	Fatty degeneration of heart	28	22	50
	Angina pectoris... ...	19	5	24
	Syncope	80	46	126
	Aneurism	16	1	17
	Senile gangrene... ...	5	4	9
	Embolism, thrombosis ...	5	6	11
	Phlebitis	...	1	1
	Varicose veins, piles ...	...	1	1
	Other diseases of circulatory system	4	4	8
	Total Order 3 ...	489	287	776
	ORDER 4.—*Diseases of Respiratory System.*			
	Laryngitis	9	6	15
	Croup	29	11	40
	Other diseases of larynx and trachea	...	...	...
	Asthma, emphysema ...	23	16	39
	Bronchitis	169	124	293
	Pneumonia	219	111	330
	Pleurisy	26	15	41
	Other diseases of respiratory system	50	28	78
	Total Order 4 ...	525	311	836
VI.—LOCAL DISEASES—*continued.*	ORDER 5.—*Diseases of Digestive System.*			
	Stomatitis, cancrum oris	3	3	6
	Dentition	18	22	40
	Sore throat, quinsy ...	4	4	8
	Dyspepsia	5	2	7
	Hæmatemesis	3	3	6
	Melæna	5	3	8
	Diseases of stomach, gastritis	38	41	79
	Enteritis	90	68	158
	Ulceration, perforation, of intestine	12	1	13
	Ileus, obstruction of intestine	21	16	37
	Stricture or strangulation of intestine	4	1	5
	Intussusception of intestine	8	6	14
	Hernia	15	10	25
	Fistula	1	1	2
	Peritonitis	31	29	60
	Ascites	2	...	2
	Gall-stones	3	7	10
	Cirrhosis of liver ...	26	9	35
	Other diseases of liver, hepatitis, jaundice ..	36	15	51
	Other diseases of digestive system	20	9	29
	Total Order 5 ...	345	250	595
	ORDER 6.—*Diseases of Lymphatic System and Ductless Glands.*			
	Diseases of lymphatic system	4	6	10
	Diseases of spleen ...	1	1	2
	Bronchocele	4	14	18
	Addison's disease ...	4	3	7
	Total Order 6 ...	13	24	37
	ORDER 7.—*Diseases of Urinary System.*			
	Acute nephritis	15	18	33
	Bright's disease ...	87	64	151
	Uræmia	6	8	14
	Suppression of urine ...	2	1	3
	Calculus	7	...	7
	Hæmaturia	2	...	2
	Diseases of bladder and prostate	42	4	46
	Other diseases of urinary system (kidney diseases undescribed)	11	7	18
	Total Order 7 ...	172	102	274
	ORDER 8.—*Diseases of Reproductive System.*			
	(*a.*) Diseases of organs of generation,—			
	Ovarian disease ...	...	6	6

CAUSES OF DEATH—*continued.*

Class.	Causes of Death. Orders and Diseases.	Males.	Females.	Total.
VI.—LOCAL DISEASES—*continued.*	ORDER 8.—*Diseases of Reproductive System*—ctd.			
	(*a.*) Diseases of organs of generation—*ctd.*			
	Diseases of uterus and vagina	...	20	20
	Disorders of menstruation	...	...	...
	Pelvic abscess	...	...	...
	Perineal abscess ...	...	...	...
	Diseases of testes, penis, scrotum, &c.	...	...	...
	(*b.*) Diseases of parturition,—			
	Abortion, miscarriage ...	...	17	17
	Puerperal mania ...	...	2	2
	Puerperal metritis ...	...	...	...
	Puerperal convulsions ...	...	13	13
	Placenta prævia (flooding)	...	10	10
	Phlegmasia dolens ...	...	4	4
	Other accidents of childbirth	...	26	26
	Total Order 8 ...	...	98	98
	ORDER 9.—*Diseases of Organs of Locomotion.*			
	Caries, necrosis	11	4	15
	Arthritis, ostitis ...	...	1	1
	Other diseases of organs of locomotion	3	5	8
	Total Order 9 ...	14	10	24
	ORDER 10.—*Diseases of Integumentary System.*			
	Carbuncle	3	...	3
	Phlegmon, cellulitis ...	1	2	3
	Lupus	1	...	1
	Ulcer, bed-sore	...	1	1
	Eczema	4	1	5
	Pemphigus	2	...	2
	Other diseases of integumentary system ...	1	1	2
	Total Order 10 ...	12	5	17
	Total Class VI. ...	2,041	1,409	3,450
VII.—VIOLENCE.	ORDER 1.—*Accident or Negligence.*			
	Fractures, contusions ...	181	26	207
	Gunshot wounds ...	15	...	15
	Cut, stab	3	...	3
	Burn, scald	25	15	40
	Sunstroke	2	...	2
	Poison	7	4	11
	Drowning	107	12	119
	Suffocation	24	11	35
	Otherwise	21	10	31
	Total Order 1 ...	385	78	463
	ORDER 2.—*Homicide.*			
	Murder, manslaughter ...	4	2	6
	Wounds in battle ...	...	...	...
	Total Order 2 ...	4	2	6
	ORDER 3.—*Suicide.*			
	Gunshot wounds ...	21	...	21
	Cut, stab	10	6	16
	Poison	7	2	9
	Drowning	3	1	4
	Hanging	22	1	23
	Otherwise	3	...	3
	Total Order 3 ...	66	10	76
	ORDER 4.—*Execution.*			
	Hanging	2	...	2
	Total Class VII. ...	457	90	547
VIII.—ILL-DEFINED AND NOT-SPECIFIED CAUSES.	Dropsy	...	1	1
	Marasmus, &c.	154	119	273
	Mortification, gangrene ...	...	...	...
	Tumour	3	2	5
	Abscess	4	1	5
	Hæmorrhage	1	...	1
	Sudden (cause unascertained)	18	1	19
	Other ill-defined and not-specified causes ...	8	2	10
	Total Class VIII. ...	188	126	314
	General totals ...	4,280	2,964	7,244

MORTALITY FROM PRINCIPAL ZYMOTIC AND FEBRILE DISEASES.

The deaths in 1898 from specific febrile or zymotic diseases amounted to 809, a proportion of 10·99 in every 10,000 persons living, and an increase of 200 on the number of deaths in 1897, when the proportion was only 8·44. The chief causes of increase lie in the prevalence of influenza and measles during the last year.

The following are the diseases in this class that have caused the greatest mortality during the past ten years:—

Diseases.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Measles	2	1	1	..	525	14	..	1	1	56
Scarlet fever and scarlatina	19	31	24	4	1	5	..	4	2	2
Diphtheria ..	113	116	86	195	128	92	76	74	49	45
Whooping-cough ..	19	82	242	115	55	190	150	24	2	6
Influenza ..	9	70	210	144	106	233	125	89	120	219
Diarrhœal diseases	355	290	319	329	193	207	232	334	257	275
Enteric or typhoid fever	118	145	119	134	97	115	94	124	106	120
Puerperal fever ..	25	19	27	29	24	38	32	10	18	19

ZYMOTIC AND FEBRILE DISEASES.

Measles, which was epidemic in 1893, caused only 16 deaths in the four succeeding years; but in 1898 the mortality rose to 56 deaths. Scarlatina was fatal in two cases in 1898. The mortality from diphtheria fell from 49 deaths in 1897 to 45 in 1898, while in the year 1892 the deaths were 195 in number, and 128 in the following year.

Whooping-cough, which in 1894 had destroyed 190 lives, and 150 in 1895, was in 1896, 1897, and 1898 much less fatal, the figures showing 24 deaths, 2 deaths, and 6 deaths respectively for those years.

Influenza, the deaths from which had fallen from 233 in 1894 to 89 in 1896, and 120 in 1897, contributed 219 deaths in 1898, being the most fatal of all the diseases in the group for last year, excepting only the diarrhœal diseases. From these diarrhœal complaints the deaths in 1898 were 275, or 18 more than in 1897; while in 1896 the mortality reached the height of 334 deaths, and in 1889 was even higher (355), with a much smaller population than in 1898.

Enteric or typhoid fever, which stands third in the order of fatality of zymotic diseases for 1898, with 120 deaths, shows a slight increase over 1897 (106 deaths). The highest mortality during the decennium was in 1892, when the deaths numbered 134 for the colony.

The proportions for the several Australasian Colonies for the years 1887–92 were :—

DEATHS FROM TYPHOID FEVER, 1887–92, PER 10,000 PERSONS LIVING.

	1887.	1888.	1889.	1890.	1891.	1892.
Queensland ..	7·07	6·31	10·28	3·40	3·11	3·05
New South Wales ..	4·32	4·26	5·35	2·82	2·35	2·81
Victoria ..	6·21	5·13	8·35	5·46	3·10	2·59
South Australia ..	4·92	3·84	4·37	3·13	2·52	2·70
Western Australia ..	3·12	1·65	1·16	0·42	2·34	9·83
Tasmania ..	8·37	6·12	8·06	3·41	5·57	3·01
New Zealand ..	2·82	2·30	1·98	2·40	1·89	2·20

VACCINATION.

From small-pox there were no deaths. By means of further expenditure in remunerating vaccination inspectors, the number of vaccinations registered was raised from 8,523 in 1895, to 10,349 in 1898. Figures for ten years are shown; but there is every indication that a collapse is imminent, consequent on the alteration of the law in England, where vaccination is in effect no longer compulsory.

Year.		Total Vaccinations registered.	Number of Births registered.	Proportion of Successful Vaccinations of	
				Children under 1 Year of Age to Total Births. Per Cent.	Children under 14 Years of Age to Total Births. Per Cent.
1898	..	10,349	18,955	29·05	54·60
1897	..	12,440	18,733	32·89	66·41
1896	..	11,917	18,612	30·78	64·03
1895	..	8,523	18,546	31·72	44·34
1894	..	9,322	18,528	32·42	50·31
1893	..	7,412	18,187	28·09	40·75
1892	..	8,216	17,876	32·41	45·96
1891	..	9,284	18,273	38·81	50·81
1890	..	9,357	18,278	42·66	51·19
1889	..	11,913	18,457	48·37	64·55

One child in every three is shown to have been successfully vaccinated, and for a matter so peculiar as vaccination, and so differently regarded by many persons (see evidence taken by the Royal Commission in England), the above results are not to be despised. Comparison with such colonies as New South Wales shows New Zealand to have been hitherto more careful in regard to the prevention of smallpox than some others.

Mr. Coghlan, for instance, writes that "Vaccination is not compulsory in New South Wales, and is resorted to chiefly in times of scare, when an epidemic of small-pox is thought to be imminent. It is easy to discern," says he, "from the returns the years when the community was threatened by the disease." Thus, in 1881, the Government Vaccinators in New South Wales vaccinated 61,239 persons; in 1883, only 896; of late years averaging about 2,000 per annum, but only 945 in 1896.

An extract from the latest report of the Registrar-General of England is given, which is highly interesting in its reference to the epidemic at Gloucester:—

> *Small-pox.*—The deaths referred to small-pox in the year 1896 were 541 in number, and corresponded to a rate of 18 per million of the population, as compared with rates of 49, 27, and 7 per million respectively in the three preceding years. Of the total deaths from small-pox registered in England and Wales, not fewer than 443 occurred in the registration district of Gloucester, in the course of the epidemic which prevailed there. Within the first two quarters of the year 1896 there were registered in the City of Gloucester 716 deaths from all causes, and of these as many as 421 deaths, or 59 per cent., were ascribed to

small-pox. During the first half of the year, therefore, the mortality of the city was increased on account of small-pox alone by 143 per cent. In England and Wales, out of the 541 persons whose deaths were caused by small-pox during 1896, 45, or 8·3 per cent., were certified to have been vaccinated, and 118, or 21·8 per cent., to have been unvaccinated, whilst with respect to the remaining 378, or 69·9 per cent., no sufficient statement as to vaccination appeared in the certificates. In addition to the deaths definitely referred to small-pox, 151 deaths were attributed to chicken-pox, and 42 to effects of vaccination; so that in the year 1896 the total number of deaths either certainly or possibly caused by variola, and of deaths alleged to have been caused by measures taken to prevent that disease, was 734, or 24 per million of the population.

The 42 deaths ascribed to the effects of vaccination include not only the deaths which were directly referred to vaccination, but also those which were stated in the certificates, or were found on inquiry to have been caused by the entrance of any noxious material whatever at the site of vaccination.

The main features of the new English law include a system of domiciliary visitation by public vaccinators, in substitution for that requiring children to be taken to vaccination stations, and exemption of parents and others from any penalty for not vaccinating children on production to the proper officer of a magistrate's certificate to the effect that he is satisfied as to the conscientious objections raised. Vaccination with glycerinated calf lymph, or other lymph issued by Local Government Boards is offered by the Government. The Act continues in force until the beginning of the year 1904.

PARASITIC DISEASES.

There were 27 deaths from parasitic diseases, the proportion per 10,000 living being 0·37. Deaths from hydatids increased from 8 in 1897 to 20 in 1898, a very marked rise.

DIETETIC DISEASES: MORTALITY IN LIQUOR TRADE (ENGLAND).

Under the class "Dietetic Diseases" are included 39 deaths from intemperance. But these cannot be said to represent the full extent of the mortality really caused by the abuse of alcoholic liquors. Many deaths of intemperate persons are attributed to disease of the liver, kidneys, &c., in the medical certificates.

The mortality of persons engaged in the liquor trade has been calculated for England, and the conclusions drawn are quoted: "The mortality of persons directly engaged in the supply of spirituous liquors still continues to be enormous. Up to the age of twenty-five years brewers experience little more than the average mortality, but after that age the baneful influence of their employment rapidly becomes apparent. Their mortality throughout the main working period of life exceeds that of occupied males by about 50 per cent. At all ages after the twentieth year publicans are subject to a death-rate which is much higher than the average among occupied males, while at the age-groups 25–35 and 35–45 years the rates are just double the average. . . . The comparative mortality figure of brewers is 1,427, that of publicans is 1,838 in London, 1,948 in the industrial districts, and 1,348 in the agricultural districts, as against

953—the standard figure for occupied males. . . . Taking publicans without distinction of locality, a table shows that they die seven times as fast as do occupied males from alcoholism, 6½ times as fast from diseases of the liver, six times as fast from gout, and more than double as fast from diseases of the urinary system, from rheumatic fever, from diabetes, and from suicide.

"Among publicans in London the case is in some respects worse. Their mortality from all causes is nearly double that of all occupied males taken as a standard. They die nearly ten times as fast from alcoholism, 3¾ times as fast from diseases of the liver, and more than twice as fast from affections of the urinary organs and from suicide."

CONSTITUTIONAL DISEASES: PHTHISIS, CANCER, ETC.

The deaths from constitutional diseases in 1898 numbered 1,385, or 18·81 per 10,000 of population, and 19 out of every 100 deaths from all causes. This class of disease is more fatal than any other except that defined as "Local diseases," on account of the great numbers of deaths from cancer and phthisis, with other tubercular complaints, which are classed as "Constitutional."

From phthisis there are more deaths than from any other cause. The number of deaths was 597 in 1898, against 596 in 1897 and 523 in 1896. The deaths in 1898 were in the proportion of 8·11 in every 10,000 persons living, against 8·26 in the previous year.

Figures for ten years are quoted, showing that the total number of deaths from this disease for 1898 was the highest recorded during the decennium, though the rate has been slightly higher in the past.

Year.	Deaths from Phthisis.	Rate per 10,000.
1889	499	8·16
1890	520	8·38
1891	495	7·86
1892	524	8·16
1893	545	8·24
1894	576	8·48
1895	553	7·99
1896	523	7·40
1897	596	8·26
1898	597	8·11

The death-rate from phthisis in New Zealand is the lowest for the Australasian Colonies, as will be seen from the figures quoted below:—

DEATH-RATES FROM PHTHISIS PER 10,000 PERSONS LIVING.

	1890.	1891.	1892.
Queensland	13·35	12·38	10·17
New South Wales	9·34	9·21	8·62
Victoria	14·58	12·93	13·60
South Australia	9·29	10·36	9·41
Western Australia	8·97	9·56	8·40
Tasmania	9·60	9·00	8·44
New Zealand	8·38	7·86	8·16

In all the Australasian Colonies the rate is materially increased by the deaths of persons who have come out either already suffering from phthisis or predisposed thereto. There is no reason for believing that this circumstance has more effect on the death-rate in Australia than in New Zealand; so that the lower rate obtaining in this colony may be taken as proof of the superiority of its climate for withstanding consumptive tendencies.

The death-rate of England and Wales from phthisis, though declining, is far higher than that of New Zealand. In 1896 it stood at 13·07 per 10,000, which is the lowest rate on record.

Phthisis is now known to be and is treated as an infectious preventible disease caused by the bacillus tuberculosis, which is communicable in many ways. Certain constitutions are far more predisposed than others to receive this bacillus, especially under conditions of life unfavourable to robust health, when a nidus is formed for the development of the bacillus.

Legislative action has been recommended to safeguard the life and health of the people from tubercle; and the complete isolation of consumptive patients, with the disinfecting of their sputa, and of everything that has been in contact with them, is suggested from time to time as a necessary measure.

From other forms of tuberculosis the deaths in 1898 were 172, or 2·34 per 10,000 of population. Thus a large addition has to be made to the deaths from phthisis to appreciate the full mischief done by tubercular disease.

Cancer.

The deaths from cancer during the year 1898 were 471. There were more deaths of males than of females, the numbers being, males 263, females, 208. The rate of mortality per 10,000 living was 6·40. The apparent increase in deaths from this disease is shown below and compared with that of England. But the increase is not believed by all authorities to be a fact to the extent represented, but partly the result of more careful certification of the causes of death, and of improved diagnosis, in cases of what is termed inaccessible cancer.

It is certain, however, that out of a total of 7,244 deaths from all causes in New Zealand during 1898, 471, or 6·50 per cent., were caused by cancer.

DEATHS FROM CANCER IN EVERY 10,000 PERSONS LIVING.

Year.	New Zealand.	England.
1881	2·69	5·20
1886	3·68	5·90
1891	4·68	6·92
1896	5·50	7·64

The English rate for 1896 is the highest on record there.

The following table gives the death-rates from cancer in New Zealand of males and females for the years 1886, 1890, 1894, and 1898:—

DEATHS FROM CANCER IN EVERY 10,000 PERSONS OF EACH SEX LIVING IN NEW ZEALAND.

Year.	Males.	Females.	Year.	Males.	Females.
1886	3·69	3·67	1894	6·65	5·27
1890	4·72	4·79	1898	6·77	5·98

The increase since 1881 is well exhibited in respect of each sex, and in regard to the higher ages which are the periods at which the cancer deaths occur, by a proportional statement:—

PROPORTIONS OF DEATHS FROM CANCER PER 10,000 MALES AND FEMALES LIVING AT THREE AGE-PERIODS.

	40 to 50.		50 to 60.		60 to 70.	
Year.	Males.	Females.	Males.	Females.	Males.	Females.
1881	5·58	9·80	11·10	22·57	22·86	43·78
1898	9·07	16·59	21·64	26·09	55·21	47·44

The actual number of deaths of persons of either sex and all ages registered in New Zealand during the last ten years was:—

	Males.	Females.	Totals.
1889	144	116	260
1890	156	139	295
1891	154	141	295
1892	173	134	307
1893	188	144	332
1894	240	168	408
1895	208	175	383
1896	205	184	389
1897	210	185	395
1898	263	208	471
Totals	1,941	1,594	3,535

MORTALITY FROM DEVELOPMENTAL DISEASES.

The total of deaths from developmental diseases was 648, or 8·80 per 10,000 persons living. The mortality from premature birth comprised 251 deaths, and that from atelectasis, cyanosis, and other congenital defects 54 deaths. The proportion of deaths from premature birth varies from 9 to 12 out of every 1,000 births, and that from congenital defects from 2 to 4 per 1,000 births. Particulars for five years exhibit the annual rates:—

NUMBER AND PROPORTIONS PER 1,000 BIRTHS.

	Deaths from Premature Birth.		Deaths from Congenital Defects.	
Year.	No.	Proportion per 1,000.	No.	Proportion per 1,000.
1894	214	11·55	74	3·99
1895	183	9·87	78	4·21
1896	230	12·36	46	2·47
1897	211	11·26	52	2·78
1898	251	13·24	54	2·85

Stating the result in another way, there was one death from premature birth to every 76 births in 1898, and one death from congenital defect to every 351 births. In England the proportion of deaths from premature birth to every 1,000 births was as high as 18·98 in the year 1895.

OLD AGE.

Deaths from old age in 1898 numbered 343, against 275 in 1897.

The remarks of Mr. James Pullar, F.F.A., in a paper read before the Insurance Institute of Victoria on the 9th September, 1896, are important, but disquieting to persons who have thought that longer life may be expected in these days than formerly by persons who have passed middle age. The concluding lines refer to one possible effect of legislation in the direction of old-age pensions. He says:—

> I do not think I can do better than to submit some of the points brought forward by Sir J. C. Browne in an address on "Old Age" delivered at the opening of the Yorkshire Medical Department a few years ago.
>
> The increased vitality of the nation, as evidenced by comparative ratios of mortality, when investigated, is shown to be mainly amongst infants, children, and young persons. After age forty-five the decline was insignificant, and from sixty-five to seventy-five there had actually been an increase in the death-rate. Premature old age is held to be accountable for this.
>
> "Certain groups of diseases which must be mainly traced to the excessive wear and tear of modern life were the cause. While increasing mortality from degenerative diseases diminished the prospect of enjoying a ripe old age, the increasing prevalence of minor degenerative changes enhanced the probability that men and women would be plunged into a premature old age, and become decrepit, while still in what used to be considered the prime of life.
>
> "Men and women were growing old before their time. Old age was encroaching on the strength of manhood, and the infirmities associated with it were stealthily taking possession of the system some years earlier than they were wont to do in former generations. Deaths due simply to old age were now reported between forty-five and fifty-five years of age, and in large numbers between fifty-five and sixty; and there had been a reduction in the age at which atrophy and debility killed those who had passed middle life. Senile insanity, due to atrophy of the brain, or exaggerated dotage, was far more common than it ever was, and, on the average, declared itself at an earlier age than formerly."
>
> The preceding quotations are a heavy indictment against the restless spirit of the age; and, while it is held to be quite beyond the power of medical science to promote a typical old age on a large scale, we can all give our support to movements which have for their basis the betterment of the race. It has been strongly maintained—and with good warrant, I believe—that one of the most important factors in averting madness and in prolonging life was the great life-insurance movement of the present century. We must, however, admit that this has not been so successfully brought into touch with the poorer classes of the community in this colony as in Britain; and the whole tendency of the old-age pension movement would undoubtedly be towards an increase of that tranquillity of mind which a guarantee of a provision in old age would be certain to induce.

MORTALITY FROM LOCAL DISEASES.

Deaths by diseases of the nervous system were 780, or 10·77 out of every 100 deaths from all causes, and 10·59 out of every 10,000 persons living. Of the 780 deaths, 218 were credited to apoplexy, 117 to convulsions, and 99 to inflammation of the brain and its membranes. Paralysis, including hemiplegia, paralysis of the insane, and paraplegia, caused 175 deaths, and locomotor ataxia 11 deaths. Paraplegia, with diseases of the spinal cord, caused 36. Deaths from nervous diseases (excluding convulsions of children) numbered 663, or 9·00 per 10,000 persons living.

Diseases of the circulatory system resulted in 776 deaths, being 10·71 out of every 100 from all causes, and 10·54 per 10,000 persons living. Of the total number in this order, endocarditis and valvular disease of the heart contributed 521 deaths. From angina pectoris there were 24 deaths, from syncope 126, from aneurism, 17; and from other forms of heart disease (hypertrophy, fatty degeneration, and pericarditis) 58.

Diseases of the respiratory system show 836 deaths, of which 623 were attributable to bronchitis and pneumonia. Taken together, these two complaints were the cause of more deaths than was phthisis, and adding 41 from pleurisy, 40 from croup, 15 from laryngitis, and 117 from other respiratory diseases, the mortality in the order is found to be 11·54 per cent. of the total deaths, and 11·36 per 10,000 of the population.

Deaths from diseases of the digestive system also formed a large proportion of the whole (8·22 per cent.), the number being 595. Enteritis was most fatal, showing 158 deaths, and gastritis 79, liver diseases coming next with 86 deaths.

Of 274 deaths from diseases of the urinary system in 1898, the deaths from Bright's disease of the kidneys (albuminuria) numbered 151.

VIOLENT DEATHS.

Deaths by violence form a large item in the total mortality. In 1898 the proportion per 10,000 of persons living was 7·43, the total number of deaths having been 547.

Of 457 males who died violent deaths, 66 were suicides. The deaths of females by violence were far fewer than those of males, amounting to 90, and out of these only 10 committed suicide. The table on page 122 gives the full list of deaths from external or violent causes for the year 1898.

Accidental deaths numbered 463, males 385 and females 78. Of the total male deaths, 181 resulted from fractures or contusions, and 107 from drowning. Of the female deaths, 12 were due to drowning.

The following figures, taken from the Victorian Year-book of 1894, show the death-rate from violence in the Australasian Colonies and the United Kingdom, from which it would appear that the rate in New Zealand was then higher than in the Home-country, South Australia, Victoria, and Tasmania, but lower than in New South Wales, Queensland, and Western Australia:—

Colonies or Countries.	Proportion of Deaths by Violence per 100,000 living.
Queensland	163·8
Western Australia	161·7
New South Wales	111·7
New Zealand	95·7
Victoria..	94·6
United Kingdom	77·5
Tasmania	74·5
South Australia	74·2

NUMBER OF MEDICAL MEN.

At the time of the census, April, 1896, there were in the colony 411 medical men stated to be in practice, against 362 returned in 1891. (The number of medical practitioners registered in the colony is 689, including 64 whose addresses are not known and 150 who have left New Zealand.) Medical students numbered 48. There were 82 persons who are grouped in the detailed tables of the census as irregular medical practitioners, including, among others, 5 Chinese doctors, 31 herbalists and 11 assistants, and 11 medical galvanists.

HOSPITALS, LUNATIC ASYLUMS, BENEVOLENT ASYLUMS, AND CHARITABLE INSTITUTIONS.

Hospitals.

Prior to the abolition of provinces the hospitals of the colony were supported mainly out of provincial revenues. After that event the expenditure for hospitals was for the most part charged against the revenue of counties and municipal corporations, until October, 1885, when "The Hospitals and Charitable Institutions Act, 1885," came into force.

The portion of the colony included within the three principal islands—the North, Middle, and Stewart Islands—was by the above Act divided into twenty-eight hospital districts, each consisting of one or more counties with the interior boroughs, to be presided over by elective Boards, designated "Hospital and Charitable Aid Boards."

The revenues of these Boards accrue from the following sources:—

(1.) Rents and profits of land and endowments vested in the Board, or set apart for the benefit of particular institutions;
(2.) Voluntary contributions;
(3.) Grants from contributory local authorities; and
(4.) Subsidies from the Consolidated Fund (these being at the rate of 10s. for every £1 of bequests, but in no case exceeding £500 in respect of any one bequest; £1 4s. for every £1 of voluntary contributions; and £1 for every £1 received from any local authority).

The contributory local authorities (being the County and Borough Councils, and Boards of road and town districts where the Counties Act is not in force) are empowered by the Act to raise by special rates the amounts assessed by the Hospital District Boards as their proportionate contributions to the Hospital and Charitable-aid Fund.

The District Boards undertake the general management and control of those hospitals that are not incorporated in terms of the Act, and are required to contribute to the support of the incorporated hospitals. To be incorporated a hospital must have as many as 100 subscribers, contributing not less than £100 annually by amounts of not less than 5s., and must have been declared by the

Governor in Council, after receipt by him of a duly signed petition, to be a body politic and corporate, under the government of trustees.

There are 42 hospitals in the colony, of which 22 are incorporated institutions, while 20 are directly managed and controlled by District Boards. In 1898 these hospitals afforded accommodation for 1,122 male and 522 female patients, a total of 1,644. The number of cubic feet of space included within the walls of all the sleeping-wards was 2,319,404, which gave an average of 1,410 cubic feet to each bed. 7,071 males and 3,499 females were admitted as patients during the year 1898, and 679 male and 212 female patients were inmates at the end of the year. The total number of indoor patients during the year was 11,558—viz., 7,788 males and 3,770 females.

Outdoor relief was also given to a very large number of persons; but, as in some of the hospitals no records are kept of the outdoor patients, it is impossible to state the number of distinct persons who received such relief.

The total revenues of the various hospitals as at five different annual periods were :—

	1886. £	1888–89. £	1891–92. £	1894–95. £	1897–98. £
Voluntary contributions and bequests	7,396	6,573	8,229	7,915	11,521
Payments by patients ..	5,340	7,490	9,318	10,228	12,728
From Government ..	31,472	34,564	30,659	36,373	38,687
From Hospital Boards and local authorities	26,059	26,344	23,560	27,758	31,524
Rents and other sources ..	5,304	3,658	4,128	5,522	5,429
Totals	£75,571	£78,629	£75,894	£87,796	£99,889

Benevolent Asylums and Charitable Institutions.

The various benevolent asylums and charitable institutions are placed on a similar footing to the hospitals. Most of the Boards of hospital districts are also Charitable-aid Boards; but, for the purpose of distributing charitable aid only, some of the hospital districts have been united into larger districts, so that, although there are thirty Boards for hospital purposes, there are only twenty-three for charitable-aid purposes.

Returns were received from sixteen benevolent asylums (not including orphanages), established for the support of indigent persons. The number of inmates in these institutions at the end of 1898 was 1,180, of whom 713 were males and 467 females. Outdoor relief was given by four of these institutions to 2,960 persons, including 1,373 children.

Auckland Sailors' Home.

There is a Sailors' Home at Auckland for the use of seafaring men resident in or visiting the town. The late Edmund Costley having left a large sum for charitable purposes, it was resolved to employ the bequest in building and endowing an institution where sailors might be received without distinction of race or religious belief, and board, lodging, and refreshments provided for them, together with such instruction and amusements as might tend to promote their social comfort and general welfare.

The Home, built in 1887, has room for 35 inmates, who are charged 15s. a week for board and lodging. It is managed by a council of eight members elected by the subscribers to the institution, with the Primate of New Zealand (the Right Rev. W. G. Cowie), who first originated the scheme, as Life President.

Orphan Asylums.

There were in 1898 four orphan asylums in the colony, one maintained by a District Hospital Board, one by the Church of England authorities, and two by clergy of the Roman Catholic Church; three of them receiving, at the charge of the State, orphan, destitute, and other children committed to them by a Stipendiary Magistrate.

Exclusive of the children so committed, 20 male and 24 female orphans were received during the year 1898, and 58 male and 87 female orphans remained as inmates at the end of the year.

Orphanages receiving committed children are, for that purpose, constituted "industrial schools."

Lunatic Asylums.

There are seven public lunatic asylums in the colony, maintained wholly or in part out of the public revenue. There is also one private asylum, licensed by the Governor for the reception of lunatics.

The amount of sleeping-accommodation provided in each of the public asylums is shown in tabular form, giving separately the number and cubic contents of the sleeping-rooms intended for one person only, and of the dormitories occupied by several inmates conjointly, together with the number of patients actually in the asylums on the 31st December, 1898:—

—	Sleeping-rooms for One Person only.			Dormitories for more than One Person.		
	Number.	Aggregate Number of Cubic Feet.	Inmates (Patients) on 31st December, 1898.	Number.	Aggregate Number of Cubic Feet.	Inmates (Patients) on 31st December 1898.
Auckland ..	94	84,499	94	22	218,015	340
Wellington ..	67	60,663	67	16	100,173	157
Porirua ..	10	8,380	10	9	220,910	328
Nelson ..	32	28,342	32	15	35,484	104
Hokitika ..	21	14,224	21	9	74,016	101
Christchurch	80	69,651	80	34	220,296	442
Seacliff ..	139	105,886	139	39	216,792	488
Totals ..	443	371,645	443	144	1,085,686	1,960

At Ashburn Hall, Waikari, there are 69 rooms, each for one person only, with an aggregate cubic content of 101,400 ft. The number of inmates on the 31st December, 1898, was 41, and two patients were out on trial.

At the end of 1898, 1,472 male and 1,008 female patients were under the care of the asylum officers of the colony. Of these, 1,370 males and 931 females were regarded as incurable, 13 males and 23 females were out on trial, and 89 males and 54 females were supposed to be curable. 232 male and 180 female patients were discharged during the year.

The following shows the proportion of insane—or, rather, of inmates of lunatic asylums and those out on trial—to the population (exclusive in each case of Maoris) at the end of the years stated:—

1884, 1 insane person to every 393 of population.
1886, „ „ 370 „
1888, „ „ 365 „
1890, „ „ 348 „
1892, „ „ 339 „
1894, „ „ 316 „
1896, „ „ 308 „
1898, „ „ 300 „

It must not be overlooked that the proportions are increased by the admission into the asylums of inebriates, idiots, and others, who should not properly be there.

The Inspector of Hospitals and Asylums, in his report for the year 1897, specifies the causes of insanity in 349 cases (males, 201; females, 148) out of a total of 544 (300 males and 244 females) admitted during that year. In 64 of these (29 males, 35 females) the cause is given as "congenital or hereditary," and in 49 (males, 39; females, 10) as "drink." The proportion of cases due to drink to the total number of specified causes was therefore 14·04 per cent. against a similar proportion of 13·78 in the year 1896.

DEAF AND DUMB.

There were 202 persons—111 males and 91 females—returned at the census of 1896 as deaf and dumb, or dumb only: of these 47 were inmates of the Sumner Institution, leaving 155 deaf-mutes who were living at home or in some other private residence. The total shows a proportion of 2·86 persons per 10,000 living, against 2·65 ascertained in 1891. The proportions of the deaf and dumb taken according to the sexes did not differ much. The figures are given for six census years.

DEAF AND DUMB (IN SEXES).—PROPORTIONS PER 10,000 OF POPULATION.

	Males.	Females.		Males.	Females.
Census 1874 ..	2·05	1·71	Census 1886 ..	2·37	2·22
„ 1878 ..	2·25	2·18	„ 1891 ..	2·80	2·49
„ 1881 ..	2·23	2·45	„ 1896 ..	2·99	2·71

The numbers at the census of 1896 for quinquennial age-periods are:—

	M.	F.
All ages	111	91
Under 5 years	1	2
5 years to 10 years ..	25	10
10 „ 15 „ ..	23	23
15 „ 20 „ ..	16	15
20 „ 25 „ ..	13	9
25 „ 30 „ ..	8	10
30 „ 35 „ ..	8	9
35 „ 40 „ ..	4	4
40 years to 45 years ..	5	1
45 „ 50 „ ..	3	2
50 „ 55 „ ..	3	4
55 „ 60 „ ..	2	..
60 „ 65 „ ..	..	..
65 „ 70 „ ..	..	..
70 „ 75 „ ..	..	1
75 „ 80 „ ..	..	..
80 „ and upwards ..	..	..
Unspecified	..	1

The highest numbers are shown at the ages 5 to 10 and 10 to 15.

The occupations of the deaf and dumb were returned in 1896 as under:—

OCCUPATIONS OF THE DEAF AND DUMB.

	Persons.	Males under 20.	Males over 20.	Females under 20.	Females over 20.
Domestic servant	2	..	1	..	1
Hairdresser ..	1	..	1	..	..
Saddler ..	2	..	2	..	..
Tanner ..	1	..	1	..	..
Cabinetmaker ..	1	..	1	..	..
Tailor	4	1	3	..	..
Dressmaker ..	3	..	..	..	3
Bootmaker ..	1	1	..	..	..
Brewer's assistant	1	..	1	..	..
Sawmiller ..	1	..	1	..	..
Carpenter, joiner	4	..	4	..	..
Slater.. ..	1	..	1	..	..
Labourer, undefined	4	1	3	..	..
Farmer ..	2	..	2	..	..
Relative assisting farmer ..	11	1	10	..	..
Labourer (farm)	3	..	3	..	..
Threshing-machine assistant ..	2	..	2	..	..
Gold-miner (alluvial).. ..	2	..	2	..	..
Independent means	3	..	2	..	1
No occupation ..	3	..	1	..	2
Domestic duties	37	..	..	10	27
Governmt. scholar	4	3	..	1	..
Receiving tuition at home ..	2	1	..	1	..
Dependent relative	48	31	..	17	..
Inmate of lunatic asylum ..	4	..	..	..	4
Inmate of deaf and dumb institution ..	47	26	..	21	..
Occupation not stated ..	8	..	5	..	3
	202	65	46	50	41

In 1891 deaf-mutes were found to exist in the Australasian Colonies in the following proportions, with which is given the proportion for New Zealand in 1896:—

DEAF-MUTEISM IN AUSTRALASIAN COLONIES, 1891.

South Australia ..	had 1 deaf-mute to every	1,369	persons.
Queensland	„ „	2,557	„
Tasmania	„ „	2,716	„
New South Wales ..	„ „	2,867	„
Victoria	„ „	3,133	„
Western Australia ..	„ „	4,526	„
New Zealand (1896) ..	„ „	3,482	„

BLIND.

In 1896 there were 211 males and 133 females, making a total of 344 persons returned as blind, including 43 who were given in the schedules as "nearly" or "partly" blind. Of the above total number, 37 were inmates of the Jubilee Institute for the Blind at Auckland. It would thus appear that only one out of every nine persons in the colony who suffered from blindness had been received into the institution. The number of blind persons in 1891 was 274. The proportions in every 10,000 of population show a continuous rise at successive censuses, and that there is more blindness amongst males than females.

PROPORTIONS OF BLIND TO EVERY 10,000 PEOPLE.

	Persons.	Males.	Females.
1874	2·34	2·45	2·18
1878	2·56	2·42	2·73
1881	2·82	2·93	2·68
1886	3·22	3·65	2·70
1891	4·37	4·91	3·74
1896	4·90	5·69	4·01

The proportion of the blind per 10,000 persons living is: for England, about 8·79; for Ireland, 11·30; for Scotland, 6·95; for Germany, 7·93; for France, 8·37; and for Italy, 7·63. For the Australian Colonies the figures are: Victoria, 8·72; New South Wales, 6·59; Australian Continent, 7·38.

The number of the blind in quinquennial periods of age is stated for each sex. Of 211 males, 73 were under and 138 upwards of 50 years old. Of 133 females, 62 were under 50, and 71 over that age.

NUMBERS OF THE BLIND AT AGE-PERIODS.

	Persons.	M.	F.		Persons.	M.	F.
All ages	344	211	133	40 years to 45 years	7	3	4
	—	—	—	45 " 50 "	21	9	12
Under 5 years ..	8	4	4	50 " 55 "	28	22	6
5 years to 10 years	9	6	3	55 " 60 "	40	28	12
10 " 15 "	14	8	6	60 " 65 "	39	25	14
15 " 20 "	26	13	13	65 " 70 "	32	21	11
20 " 25 "	12	8	4	70 " 75 "	21	15	6
25 " 30 "	10	5	5	75 " 80 "	26	14	12
30 " 35 "	14	8	6	80 and upwards	23	13	10
35 " 40 "	14	9	5				

Of the total number of the blind, 344 persons, there were 55 in regard to whom no occupation was stated; 56 (females) were returned as engaged in domestic duties, 68 persons as inmates of hospital, asylum, or blind institute, 21 as dependent relatives, 22 as of no occupation, 19 as farming, 12 of independent means, and the rest (91) of various occupations in small numbers each. A complete statement is added, in regard to which it must be remarked that many of the occupations are evidently the past occupations of persons whom blindness has prevented from continuing to work at their usual calling.

OCCUPATIONS (PAST OR PRESENT) OF THE BLIND.

	Persons.	M.		F.	
		Under 20.	Over 20.	Under 20.	Over 20.
Barrister (not in practice) ..	1	..	1	..	..
Teacher of the blind ..	2	..	2	..	..
School-teacher (retired) ..	1	..	1	..	..
Teacher of music	2	..	2	..	..
Boarding-house keeper ..	2	..	2	..	..
Assistant, hotel	1	..	1	..	..
Capitalist ..	1	..	1	..	..
Landowner ..	1	..	..	..	1
Stationer's traveller ..	1	..	1	..	..
Dairyman ..	2	..	2	..	..
Grain merchant	1	..	1	..	..
Fruiterer ..	1	..	1	..	..
Grocer ..	1	..	1	..	..
Ironmonger ..	2	..	2	..	..
Shopkeeper, storekeeper ..	4	..	3	..	1
Hawker ..	1	..	1	..	..
Clerk ..	1	..	1	..	..
Mariner ..	1	..	1	..	..
Lumper ..	2	..	2	..	..
Message-boy ..	1	1	..	..	..
Basketmaker ..	4	..	4	..	..
Piano-tuner ..	2	..	2	..	..
Saddler ..	1	..	1	..	..
Tanner ..	1	..	1	..	..
Bootmaker, shoemaker ..	2	..	2	..	..
Milliner, dressmaker ..	1	..	..	..	1
Matmaker ..	1	..	1	..	..
Baker ..	2	..	2	..	..
Cordial-maker ..	1	..	1	..	..
Soap-maker ..	1	..	1	..	..
Road contractor	1	..	1	..	..
Sawyer ..	1	..	1	..	..
Carpenter ..	3	..	3	..	..
Plasterer's labourer ..	1	..	1	..	..
Labourer (undefined) ..	8	..	8	..	..
Gardener ..	4	..	4	..	..
Farmer ..	19	..	18	..	1
Relative assisting farmer ..	2	1	1	..	..
Farm labourer ..	3	..	3	..	..
Dairy-farmer ..	1	..	1	..	..
Sheep-farmer ..	1	..	1	..	..
Fisherman ..	1	..	1	..	..
Bushman ..	1	..	1	..	..
Miner, quartz ..	1	..	1	..	..
Miner, alluvial ..	1	..	1	..	..
Miner, undefined	1	..	1	..	..
Pensioner ..	2	..	2	..	..
Annuitant ..	1	..	1	..	..
Independent means	12	..	9	..	3
Settler ..	1	..	1	..	..
No occupation ..	22	..	13	..	9
Domestic duties	56	..	..	1	55
Governm't scholar	3	2	..	1	..
Private school ..	2	..	..	1	1
Receiving tuition at home ..	2	2	..	..	..
Dependent relatives ..	21	15	..	6	..
Inmate of hospital	11	..	7	..	4
Inmate of benevolent asylum ..	16	..	13	..	3
Inmate of lunatic asylum ..	4	..	3	..	1
Inmate of blind institute ..	37	9	14	9	5
In receipt of charitable aid	5	..	2	..	3
Occupation not stated ..	55	1	27	8	19
	344	31	180	26	107

Blindness in the Australasian Colonies existed in 1891 in the following proportions, contrasted with which are the 1896 figures for New Zealand :—

BLINDNESS IN AUSTRALASIAN COLONIES, 1891.

Tasmania ..	.. had 1 blind person to every	889	persons.
Western Australia ..	„	922	„
Victoria	„	1,146	„
South Australia ..	„	1,297	„
New South Wales ..	„	1,517	„
Queensland	„	1,978	„
New Zealand (1896) ..	„	2,045	„

SECTION III.—THE MAORIS: PROBABLE ORIGIN, AND PRESENT NUMBERS.

Result of Researches as to Origin.

The following notes on this subject are supplied by Mr. S. Percy Smith, F.R.G.S.:—

In extension of the article under the head of "Maoris," given on page 4, *ante*, it may be stated that progress in the sciences of ethnology and philology has made some strides since those pages were first penned. Although an origin for the Maoris cannot be stated with certainty at present, it will serve a useful turn if some indication is given of the direction in which these researches, undertaken by several people, are tending. It is impossible in the brief space of a page or two to give the evidence on which the following is based; and, moreover, there are conflicts of detail which require further discussion, but the main outlines of the history of the Polynesians—of which race the Maori forms the most important section—can be given as a tentative theory.

It is obvious that the further back in point of time these researches are carried the more uncertain become the conclusions. But there is a point in the history of the race where their carefully treasured traditions become history. Comparison of the traditions preserved by various branches of the race all point to the West as their origin; and when we take up the direction thus indicated, and follow it out by the light shed on the subject by ethnology and philology, it will take us very far from the present home of the race.

It appears, then, from these indications, that the race once inhabited a mainland, which is believed to be India—inland India, the plains and foot-hills of the Himalaya, with their borders touching the sea on the Persian Gulf. Ages must have passed whilst the people dwelt in those parts; they became navigators, crossed the neighbouring seas, acquired many customs from some race of a Semitic origin, together with some words of their language. This neighbouring race was probably dwelling in Arabia and the shores of the Persian Gulf. But a time came when the Aryan race began to make its appearance in India, a race of superior mental calibre, and probably more numerous. Before this intruding race the ancient Polynesian gradually retreated; but not at once. There was a period when much intercourse took place between the two races, when they mutually borrowed words and customs, and probably intermarried. How long this intercourse lasted there is no means at present of saying; but, in the course of centuries, probably, the intrusive race gradually forced the Polynesians southwards and seaward, where they acquired increased powers of navigation and the knowledge of surrounding lands. Voyages were made far East, to Indonesia, where the Polynesians found in occupation a negrito race, which is connected with, if not the same as the Papuan.

Pressure from behind, as the Aryans increased in numbers, added to the knowledge of the east acquired by the Polynesians, now induced that people to remove in large numbers to Indonesia, where their superior physique and intelligence would soon render them the masters of the former inhabitants. The race as a whole, however, did not migrate, for there are strong reasons for thinking that some of the hill tribes of India represent those who remained. Along the shores of the many-isled Indonesia the people formed their homes; the very nature of this islet-dotted sea exciting their powers as navigators and rovers. It cannot yet be said how long the race remained in that part of the world, but it must have been counted by centuries. There is strong reason for thinking that their voyages extended far into the Pacific, and to the north. Tradition begins now to take its part in the history of the race, and it is probable that the original names of Atea, Hawaiki-te-varinga, Vavau, Herangi, and many others must be looked for in these regions. But here comes in a difficulty in tracing these early names, due to the fact of the subsequent irruption of other races, who brought their own names with them, and applied them to those places already named by the Polynesians, which thus became lost, except where preserved in the traditions of the emigrants.

About the first and second centuries of the Christian era the Polynesians came into touch with another ethnic wave—the Malay race, from the west and north-west. Again were the same scenes enacted as in distant India. At first wars, then periods of peace, when an interchange of customs and language took place. After a time of considerable duration, the Polynesians again moved on, nearly always to the east. The pressure of the Malay race forced them onward. Expert navigators and daring sailors as they were, the unknown was to them an attraction rather than a deterrent. There is little doubt that their patriarchal form of government had existed from the most ancient times, and that they were organized in tribes, owing allegiance to their own Arikis or supreme chiefs. Thus some tribes, and those that felt the outward pressure most, started away from Indonesia independently of the others, carrying with them their tribal gods and tribal customs. It is probable that at this time, some one tribe or more, varying the route that they had hitherto taken, retraced their steps, and finally reached Madagascar, where their descendants, the Hovas, are still found. But this was not the general direction of the movement. The larger number proceeded to the *Hitinga* or sunrise. This was the first migration into the Pacific. Tracing them by their own histories, and by such lights as modern science throws on the darkness of the past, it appears probable that these early voyagers, coasting along Northern New Guinea, the Solomon, the New Hebrides, and Fiji Islands—islands already occupied by the Papuan and Melanesian races—finally reached Samoa, or Hawaiki, as all that group is still called by the eastern Polynesians, but under the form Hawaiki-raro, or Leeward Hawaiki, to distinguish it from Hawaiki-runga, or Windward Hawaiki, the Tahitian and neighbouring group. This first migration, no doubt, extended its voyages very far. The Menehune people of Tahiti, and of Hawaii, the first inhabitants of New Zealand (the same people as the Moriori of the Chatham Islands) and the first inhabitants of Marquesas perhaps formed part of it.

But the pressure of the Malay races became more and more pronounced as they increased in numbers, and shouldered those of the Polynesian race remaining in Indonesia. The traditions refer to this as a time of trouble and unrest. Many of the Polynesians left for new fields; others who remained were eventually, and to a considerable extent, forced to the mountains, where, it is believed, their remnant may be seen to this day in several of the islands of Indonesia. Those who came east followed the footsteps of their countrymen who had preceded them, until they reached the Fiji group. This later migration appears to have been composed of a more warlike and more capable people than the first—centuries of contact with the Malays had influenced them—for we can trace them all through their migrations as the conquerors, whether pitted against their own race or the Melanesian. In Fiji, they occupied the Lau, or eastern group, but held frequent communication with the other islands, to all of which they gave names, differing from those known to the Fijians of to-day. It is obvious they mixed in blood with the original Melanesians, and thus acquired that strain that may be recognised in some branches of the Polynesians to-day. Doubtless, the original Fijians, occupying as they did the most easterly outpost of Melanesia, were the most adventurous of that race, and the best navigators. It is probable for this reason, and for others now obscure, that the Polynesian, with his high idea of caste, and racial dislike of black people, condescended to mix with the Fijians, which there is reason for thinking he did not do, or only to a limited extent with other Melanesians, on the passage south past the Solomons, New Hebrides, &c.

During the occupation of Fiji, voyages were not infrequent to the neighbouring islands of Samoa and Tonga. This is apparent from both Samoan and Tongan histories. Here it is necessary to remark that a close study of the above traditions leads to the conclusion that when the Fijians are mentioned therein, it is the Polynesian immigrants that formed the later migration into the Pacific that are referred to, not the native Fijians.

A time, however, came in the history of the race when great troubles arose in Fiji; there was much fighting and general unrest—much voyaging to and fro to the neighbouring groups and to more distant ones. Eventually a combination of forces took place between the Fijian Polynesians and the Tongans of Vavau and Haapai, and a descent was made on Samoa. This group was practically conquered, and the Samoans driven to the mountains, whilst the invaders occupied the coasts. This occupation of Samoa covered some generations; and during this time—which was, roughly, about from the tenth to the twelfth century—these capable, warlike, Fiji Polynesians, warriors and sailors, spread far and wide over the Pacific. These are the people who formed the southern and later migration to the Hawaiian Islands referred to by Fornander, and who, on their arrival in that group, soon acquired the leading position, which they have held down to the present day. The same thing occurred in other groups. They occupied Tahiti and the neighbouring islands, the Paumotu group, the Marquesas, Rarotonga, and, after some time, turned their faces south-westward and settled in New Zealand, where they arrived in a fleet of canoes in about the year 1350. These are the people who are generally termed Maoris, and who, on their arrival and after settling down in the land, by their masterful ways, greater intelligence, force of character, and probably superior physique, eventually became the conquerors of the people belonging to the prior migration into the Pacific, whom they found in occupation of these Islands.

These people were daring voyagers, in comparison with whom the most noted European navigators of the middle ages were mere coasters. The Polynesian chronicles relate voyages extending from Fiji to Easter Island, from New Zealand to the Hawaii group, and even to the antarctic regions. They were never equalled as voyagers until the sixteenth century, which saw such an extension of nautical enterprise, originating in Europe.

PRESENT NUMBERS OF THE MAORIS.

The census of the Maori population—that is, full-blooded Maoris, with all half-castes living as members of a Native tribe—was taken under the supervision of the officers of the Justice Department in the latter part of February, 1896. The enumeration of the Natives cannot be effected for one particular night, as is done with Europeans, and the instruction given to Enumerators was that the work should be done in as short a period of time as possible, beginning in the third week of February, and leaving the remainder of that month, and the month of March, for the work of examining, correcting, and completing the returns.

The names of the Natives were given in the Sub-Enumerators' books, besides information as to sex, age, principal tribe, sub-tribe, or hapu to which belonging, and particulars as to extent of cultivations owned individually or communally, with live stock.

Enumerators for the Maori census were directed to report on the general state of health of the Natives, and any other matters of interest relating to them.

The Enumerators for the northernmost counties reported fairly good health among the Natives, but that a habit of camping in low swampy places during the gum-digging season was injurious. Digging for kauri-gum is their principal occupation throughout the country north of Auckland.

In the country over which the Maori "King," Mahutu, has influence, Sub-Enumerators experienced great difficulties, being told that the "King" had already taken a census, and no other was required. The Maoris also seemed to connect the census with taxation, and objected to it on those grounds.

The Sub-Enumerators for Waikato, Kawhia, and Thames Counties reported very little sickness. In Counties Tauranga, Whakatane, Rotorua, and Taupo (East and West) no unusual sickness was found.

The Natives round Tauranga are stated to be more industrious than formerly, and taking to agricultural pursuits.

In the Counties of Cook and Waiapu the Maoris were stated to be in very good health, and, as a rule, comfortably off; most of the young and middle-aged were working at bush-falling, shearing, &c., and making good wages.

For Counties Wairoa and Hawke's Bay the accounts were not so good. In parts there had been fever of a typhoid character. Paucity of children and old people was observed by several Sub-Enumerators.

Around New Plymouth there had been no sickness. The same was reported for Hutt County.

In the Middle Island, where the Native population is only a little over two thousand people, the reports speak of satisfactory health, and, for parts in respect of which comment is made, of a sufficiently prosperous condition.

Although the above leads to the conclusion that the Maoris were fairly thriving at the time of the census, there is reference in some of the reports to epidemics sweeping away numbers of the people during the five years 1891–96; and the actual results of the census indicate either (1) a decrease of population, or (2) that at the enumeration of 1891 some Natives must have been counted more than once, and where names had not been given, the number returned was greater than the reality. The comparison of the figures is as under:—

MAORIS (INCLUDING HALF-CASTES LIVING AS MEMBERS OF MAORI TRIBES).

	Persons.	Males.	Females.
April, 1891	41,993	22,861	19,132
April, 1896	39,854	21,673	18,181
Apparent decrease in five years ..	2,139	1,188	951

The numbers for the different counties cannot be compared for the two census years to much purpose, because of the movements of the Maoris during the quinquennium, but the Enumerator for Waikato distrusts the degree of decrease shown for his whole large district, though of the belief that there has been a decrease to a lesser extent. He considers that more Maoris are working for Europeans than formerly, and these are liable to be missed. Probably at next census the schedule left at the dwellings of Europeans should have a slip attached on which might be taken particulars relating to Maoris working on their farms, and not living in the kainga Maori.

In February, 1896, the numbers of Maoris on the principal islands of New Zealand was as shown on the next page:—

	Maoris.			Half-castes living as Members of Maori Tribes (included in the preceding Numbers).		
	Persons.	Males.	Females.	Persons.	Males.	Females.
North Island	37,102	20,343	16,759	2,477	1,395	1,082
Middle Island	2,207	1,166	1,041	895	485	410
Stewart Island ..	117	59	58	104	49	55
Chatham Islands—						
Maoris	179	94	85	27	15	12
Morioris	20	11	9	..	..	..
Maori wives living with European husbands ..	229	..	229	..	..	..
Totals ..	39,854	21,673	18,181	3,503	1,944	1,559

Besides the half-castes included in the above table, there were 2,259 half-castes (males, 1,123; females, 1,136) living with and enumerated as Europeans at the time of the census.

In these numbers will be noticed 20 of the old aboriginals, termed Morioris, at the Chatham Islands, and 229 Maori wives of European husbands. These Native wives of Europeans numbered 251 at the census of 1891, and 40 Morioris were then enumerated.

HALF-CASTES.

The half-caste population consists of those who live as members of Maori tribes, and others living with and counted as Europeans in the census. Adding the numbers of the two kinds gives the following figures for three censuses:—

Census.	Half-castes living as Members of Maori Tribes. Persons.	Half-castes living as Europeans. Persons.	Total Half-caste Population. Persons.
1881	2,254	1,958	4,212
1891	2,681	2,184	4,865
1896	3,503	2,259	5,762

These numbers indicate an increasing population of half-castes, notwithstanding the apparent decrease of the Maori population, before alluded to as probably in part correct.

PROPORTIONS OF DIFFERENT AGE-GROUPS.

It has been stated that the decrease shown by the census of 1896 in the Maori population can scarcely be considered a certainty to the full degree exhibited. It remains to see if consideration of the proportions of the people under and over fifteen years tends to confirm the conclusion. The proportions are accordingly given for six successive census years:—

PROPORTIONS PER 100 PERSONS LIVING—MAORIS.

	Males.		Females.	
	Under 15 Years.	Over 15 Years.	Under 15 Years.	Over 15 Years.
1896 ..	35·28	64·72	36·82	63·18
1891 ..	33·22	66·78	35·22	64·78
1886 ..	31·64	68·36	33·56	66·44
1881 ..	33·65	66·35	34·64	65·36
1878 ..	32·00	68·00	31·63	68·37
1874 ..	35·16	64·84	36·39	63·61

The figures here, taken over the full range of years, would seem to indicate almost unchanged conditions. The proportions per cent. under 15 years of the young people of either sex are somewhat different from those found in the European population—viz.: Males under 15, 34·81; over 15, 65·19; and females under 15, 38·01; and over 15 years, 61·99. But there is nothing to indicate decrease of numbers.

Dividing the whole Maori population into ten age-periods, the proportions per 100 living of each sex at these ages are next compared with those of the European population. The proportions for persons under 5 years for the two races are very nearly the same.

Ages.	New Zealand European Population, 1896.		Maori Population, 1896.	
	Males.	Females.	Males.	Females.
Under 5 years	11·45	12·42	10·88	11·86
5 and under 10 years	11·75	12·80	14·43	15·02
10 " 15 "	11·61	12·79	9·73	9·59
15 " 20 "	10·88	12·17	10·29	11·90
20 " 30 "	17·49	19·13	17·94	18·80
30 " 40 "	12·47	11·92	13·22	12·71
40 " 50 "	9·93	8·32	10·28	9·19
50 " 60 "	8·21	6·07	7·50	6·30
60 " 70 "	4·86	3·25	3·82	3·08
70 and upwards	1·35	1·13	1·91	1·55
	100·00	100·00	100·00	100·00

DISTRIBUTION OF THE MAORI POPULATION.

The localization of the Maoris is shown by the numbers found to be living in the several counties, as under:—

Counties.	Persons.	Counties.	Persons.	Counties.	Persons.
Mongonui	1,616	Rotorua	1,047	Hutt	256
Whangaroa	656	Tauranga	1,099	Sounds	139
Hokianga	1,839	Whakatane	3,524	Marlborough	167
Bay of Islands	2,509	Waiapu	2,393	Kaikoura	77
Hobson	1,011	Cook	1,402	Collingwood	32
Whangarei	606	Clifton	368	Waimea	98
Otamatea	264	Taranaki	1,069	Buller	26
Rodney	193	Stratford	226	Westland	82
Waitemata	260	Hawera	816	Ashley	165
Eden	177	Patea	280	Selwyn	62
Great Barrier Island	60	Waitotara	293	Akaroa	238
Waiheke Island	58	Wanganui	1,133	Levels	141
Manukau	676	Rangitikei	411	Waimate	74
Coromandel	638	Oroua	307	Waitaki	180
Thames	1,010	Manawatu	149	Waikouaiti	168
Ohinemuri	483	Horowhenua	886	Peninsula	71
Piako	291	Wairoa	1,766	Taieri	61
Waikato	324	Hawke's Bay	1,326	Clutha	24
Waipa	294	Waipawa	325	Bruce	20
Raglan	1,269	Patangata	170	Southland	121
Kawhia	1,444	Pahiatua	30	Wallace	261
West Taupo	961	Wairarapa North	319	Stewart Island	117
East Taupo	519	Wairarapa South	349	Chatham Islands	199

229 Maori wives of European husbands have not been included in these figures.

SECTION IV.—REPRESENTATION, AND THE GENERAL ELECTION OF 1896.

REPRESENTATION.

ON the basis of the results of the census of 1896 the colony is divided in accordance with the Representation Act Amendment Acts, 1887 and 1889, into sixty-two districts for purposes of European representation—fifty-eight rural districts having one member each, and four city electorates three members each. The Act of 1889 directed that in computing for electoral purposes the population of the colony 28 per cent. should be added to the country population—*i.e.*, all persons living outside towns of 2,000 inhabitants and over. The total population of the colony (other than Maoris), with the addition aforesaid, having been ascertained, was then divided by the number of members (70), and the quotient thus obtained formed the quota. The four city electoral districts (which have three members each) were so defined in extent that the population should be three times the quota. Inasmuch as it would be impossible to divide the country into a given number of districts all having exactly the precise quota of population, the law permits the Commissioners to make an allowance of 750 persons by way of addition to or deduction from the population of rural districts, and of 100 in case of city electorates; and due consideration is given to community of interest, facilities of communication, and topographical features, as far as possible, in forming the districts.

"The Representation Act Amendment Act, 1896," provides for two permanent Commissions, called the "North" and "Middle" Island Representation Commissions. These sit together as a joint Commission for the purpose of fixing the number of districts for the North and Middle Islands respectively, but afterwards act separately and independently of one another, the duties and functions of each being confined to their respective island.

The North Island with its adjacent islands includes 30 electoral districts, having 34 members; the Middle and Stewart Islands having 32 districts and 36 members. In 1893 the North Island returned 31 and the Middle Island 39 members. But movement of population has resulted in the addition of three members to the North, and a corresponding reduction in the Middle Island.

These districts are, as above stated, for purposes of European representation. But the colony is again divided into four districts for purposes of Maori representation, under the electoral law, each district having one Native member elected by the Maoris; so that the House of Representatives consists of 74 members altogether—70 Europeans and 4 Maoris.

THE ELECTORAL ACTS.

By the principal Act, which came into force in 1893, the great step was taken of admitting women to the franchise. The Amendment Act of 1896 abolished the non-residential or property qualification, with a saving clause in favour of then-existing registrations in respect of such qualification.

[Electors are enrolled on sending to the Registrar a claim and declaration according to a prescribed form. There are no fixed periods for making up fresh electoral rolls, but the rolls are revised and printed before a general election, and also for any district in which a bye-election is to take place. Nor are there any fixed periods for the revising and purifying of the rolls. It is the duty of the Registrar of each electoral district to keep the rolls revised and complete.]

THE GENERAL ELECTION OF 1896.

For European Representatives.

(Polling-day, 4th December, 1896. Number of Polling-places, 1,521.)

Dealing with the population of both sexes, it is found that the total number of persons on the rolls was 339,230, out of a total adult population estimated at 356,658. These results give a proportion of 95·11 per cent. of adults who were registered as electors, as against 94·98 at the previous election in 1893. The number of persons who voted was 258,254, or 76·13 per cent. of the number on the rolls, a slightly higher proportion than obtained in 1893, which was 75·25 per cent.

Date of General Election.	Total Adult Persons.	Number on Rolls.	Proportion of Adult Persons registered as Electors.	Number of Persons who voted.	Proportion of Persons on Rolls who voted.
1893	319,010	302,997	94·98	220,082	75·25*
1896	356,658	339,230	95·11	258,254	76·13

Dealing with men only, the number on the rolls was 196,925, or almost the full number of adult males in the colony as estimated from the census. It would seem that the rolls must have been, at any rate, more accurate than in 1893, when the number of male names was actually fourteen thousand above the estimated adult male population. The males who voted in 1896 were 149,471, or 75·90 per cent. of those on the rolls, against 69·61 per cent. in 1893.

Date of General Election.	Total Adult Males.	Number on Rolls.	Proportion of Adult Males registered as Electors.	Number who voted.	Proportion of Males on Rolls who voted.
1893	179,539	193,536	†	129,792	69·61*
1896	197,002	196,925	99·96	149,471	75·90

* Excluding figures for three electorates in which there was no contest.

† The number on rolls was in excess of the estimated adult male population at the date of the election.

The figures relating to women show that a larger proportion (89·13 per cent.) of adults were registered as electors in 1896 than in 1893 (78·48 per cent.), which would indicate an increasing disposition to use the franchise. But the number of women who voted, 108,783, is only 76·44 per cent. of the females on the rolls, while in 1893 there were 90,290 who voted, giving the higher proportion of 85·18 per cent.; so that as to actual voting (assuming the figures to be correct) there is no proof of a greater willingness now on the part of the females to go to the poll than at the time the franchise was conferred upon them.

Date of General Election.	Total Adult Females.	* Number on Rolls.	Proportion of Adult Females registered as Electors.	Number who voted.	Proportion of Females on Rolls who voted.
1893	139,471	109,461	78·48	90,290	85·18*
1896	159,656	142,305	89·13	108,783	76·44

* Excluding figures for three electorates in which there was no contest.

The following table shows for the different districts the number of electors of each sex on the rolls, with the voters, and the estimated population:—

District.	Number of Members.	Estimated Population, 4th Dec., 1896.	Electors on Roll.		Number of Voters who recorded Votes.	
			Males.	Females.	Males.	Females.
Bay of Islands ..	1	9,980	2,834	1,154	1,837	770
Marsden	1	9,797	2,628	1,482	1,941	1,132
Waitemata	1	9,536	3,194	1,687	2,554	705
Eden	1	10,617	2,769	2,434	1,863	1,708
City of Auckland ..	3	36,039	10,872	9,332	6,730	6,304
Parnell	1	10,893	2,655	2,866	1,838	1,908
Manukau	1	10,592	2,939	2,593	1,612	1,577
Franklin	1	10,147	2,641	2,092	2,212	1,682
Thames	1	10,222	3,509	1,632	2,680	1,295
Ohinemuri	1	9,600	4,181	1,486	2,811	968
Waikato	1	10,034	2,250	1,438	1,595	1,015
Bay of Plenty ..	1	9,537	2,436	1,513	1,864	1,194
Waiapu	1	9,544	3,100	1,781	2,430	1,484
Hawke's Bay ..	1	9,717	3,023	1,723	2,435	1,395
Napier	1	11,434	2,742	2,390	2,244	1,921
Waipawa	1	8,745	2,721	1,666	2,187	1,524
Pahiatua	1	8,637	2,625	1,432	2,028	1,131
Masterton	1	9,638	2,963	1,578	2,223	1,185
Wairarapa	1	8,670	2,742	1,595	2,223	1,321
Egmont	1	9,523	2,706	1,440	2,160	1,136
Taranaki	1	10,736	2,912	2,332	2,374	1,872
Hawera	1	8,707	2,487	1,618	2,023	1,360
Patea	1	8,658	2,771	1,214	1,862	930
Wanganui	1	10,412	2,881	2,371	2,182	1,960
Rangitikei	1	9,572	3,379	1,657	2,523	1,207
Palmerston	1	10,342	2,701	1,898	1,809	1,347
Manawatu	1	8,725	2,553	1,617	1,893	1,257
Otaki	1	8,650	2,329	1,600	1,850	1,288
Suburbs of Wellington	1	10,717	2,864	2,730	2,185	1,951

District.	Number of Members.	Estimated Population, 4th Dec., 1896.	Electors on Roll.		Number of Voters who recorded Votes.	
			Males.	Females.	Males.	Females.
City of Wellington ..	3	36,020	11,028	8,276	7,377	5,791
City of Nelson ..	1	10,879	2,400	2,123	2,012	1,767
Motueka	1	9,342	2,210	1,456	1,817	1,161
Wairau	1	10,538	2,958	2,165	2,338	1,745
Buller	1	9,741	3,184	1,829	2,718	1,615
Grey	1	10,020	2,908	1,600	2,307	1,134
Westland	1	9,468	3,244	1,370	2,314	1,217
Ashley	1	9,496	2,535	1,524	2,108	1,249
Kaiapoi	1	9,923	2,501	2,202	2,156	1,875
Avon	1	9,827	2,037	2,136	1,646	1,392
City of Christchurch ..	3	36,032	9,244	9,195	7,507	7,599
Lyttelton	1	10,789	2,243	2,039	1,863	1,617
Riccarton	1	9,100	2,276	1,844	1,787	1,490
Ellesmere	1	9,579	2,156	1,571	1,816	1,235
Selwyn	1	9,401	2,510	1,549	2,042	1,128
Ashburton	1	10,331	2,878	1,973	2,002	1,604
Geraldine	1	9,130	2,528	1,826	2,045	1,530
Timaru	1	10,300	2,498	2,275	1,947	1,775
Waitaki	1	9,661	2,787	1,586	2,218	1,261
Oamaru	1	10,292	2,524	2,091	2,072	1,751
Waihemo	1	9,883	2,484	1,593	2,031	1,267
Waikouaiti	1	9,576	2,182	1,809	1,694	1,409
City of Dunedin ..	3	35,496	8,907	9,664	7,133	7,450
Caversham	1	11,511	2,718	2,841	2,149	2,253
Taieri	1	9,613	2,265	1,594	1,714	1,124
Bruce	1	8,877	2,361	1,679	1,759	1,259
Tuapeka	1	9,421	2,513	1,394	2,038	1,119
Clutha	1	9,952	2,808	1,836	2,242	1,444
Mataura	1	9,904	3,005	1,992	2,343	1,560
Wakatipu	1	9,567	2,765	1,281	1,982	1,001
Wallace	1	9,401	2,565	1,362	2,066	1,064
Invercargill	1	10,909	2,869	2,844	2,290	2,253
Awarua	1	9,645	2,427	1,435	1,770	1,117

Particulars are given for the four city electorates, where the electors have the right of voting for three members. The number of votes exercisable is more than ten thousand in excess of those recorded, so that some of the electors evidently voted for only one or two candidates:—

City.	Number of Members returned.	Electors on the Rolls.			Voters who recorded Votes.			Number of Votes recorded.	Number of Votes exercisable by Persons who voted.
		Men.	Women.	Total.	Men.	Women.	Total.		
Auckland ..	3	10,872	9,332	20,204	6,730	6,304	13,034	36,819	39,102
Wellington ..	3	11,028	8,276	19,304	7,377	5,791	13,168	37,624	39,504
Christchurch ..	3	9,244	9,195	18,439	7,507	7,599	15,106	42,551	45,318
Dunedin ..	3	8,907	9,664	18,571	7,133	7,450	14,583	40,047	43,749
Total ..	12	40,051	36,467	76,518	28,747	27,144	55,891	157,041	167,673

A return is added showing the number of votes recorded for each candidate:—

Electoral Districts and Names of Candidates.	Number of Votes recorded.	
	For each Candidate.	Total
Bay of Islands:		
Houston, R. M.	1,599	
Press, John	1,008	2,607
Marsden		
Thompson, R.	1,761	
Mason, A. H.	1,312	3,073
Waitemata:		
Monk, R.	1,715	
Jackman, W. H. H.	1,544	3,259
Eden:		
Bollard, John	1,892	
Palmer, Jackson	1,679	3,571
City of Auckland:		
Thompson, T.	7,192	
Holland, J. J	6,298	
Crowther, W.	6,004	
Rosser, A.	4,676	
Button, C. E.	4,008	
Mitchelson, E.	3,620	
Fowlds, G.	3,152	
Fawcus, J.	906	
Shera, J. McE.	609	
Eugster, E.	354	36,819
Parnell:		
Lawry, F.	1,773	
Vaile, S.	1,303	
Withy, A.	670	3,746
Manukau:		
O'Rorke, Sir G. M.	1,702	
Buckland, W. F.	1,487	3,189
Franklin:		
Massey, W. F.	2,184	
Harris, B.	1,710	3,894
Thames:		
McGowan, J.	2,149	
Taylor, E. H.	1,826	3,975
Ohinemuri:		
Cadman, A. J.	2,908	
Edwards, E.	871	3,779
Waikato:		
Lang, F. W.	1,811	
Walker, E.	799	2,610
Bay of Plenty:		
Herries, W. H.	1,596	
Kelly, W.	1,462	3,058
Waiapu:		
Carroll, J.	2,142	
Fitzroy, C. A.	1,772	3,914
Hawke's Bay:		
Russell, W. R.	2,341	
Fraser, A. L. D.	1,489	3,830

Electoral Districts and Names of Candidate	Number of Votes recorded.	
	For each Candidate.	Total.
Napier:		
McLean, R. D. D.	2,456	
Carnell, S.	1,709	4,165
Waipawa:		
Hunter, G.	1,961	
Hall, C.	1,750	3,711
Pahiatua:		
O'Meara, J.	1,000	
Manisty, R.	963	
McCardle, W. W.	848	
Taylor, J.	232	
Whitcombe, G.	116	3,159
Masterton:		
Hogg, A. W.	1,859	
Duncan, D. J.	1,549	3,408
Wairarapa:		
Buchanan, W. C.	1,940	
Hornsby, J. T. M.	1,604	3,544
Egmont:		
Symes, W.	1,489	
Monkhouse, W.	1,142	
Harkness, J. G.	665	3,296
Taranaki:		
Brown, H.	2,008	
Smith, E. M.	1,852	
Bellringer, C. E.	386	4,246
Hawera:		
McGuire, F.	1,182	
Robbins, B. C.	1,146	
Major, C. E.	1,055	3,383
Patea:		
Hutchison, G.	1,534	
Remington, A. E.	1,258	2,792
Wanganui:		
Carson, G.	2,098	
Willis, A. D.	2,044	4,142
Rangitikei:		
Lethbridge, F. Y.	1,992	
Bailey, W. A. L.	1,738	3,730
Palmerston:		
Pirani, F.	1,608	
Buick, D.	1,548	3,156
Manawatu:		
Stevens, J.	1,333	
Bruce, R. C.	1,264	
Kellow, F. P.	553	3,150
Otaki:		
Field, H. A.	1,799	
Newman, A. K.	1,339	3,138

Electoral Districts and Names of Candidates.	Number of Votes recorded.	
	For each Candidate.	Total.
Suburbs of Wellington :		
Wilford, T. M.*	2,194	
Hislop, T. W.	1,942	4,136
City of Wellington :		
Hutcheson, J.	6,411	
Stout, Sir R.†	6,306	
Fisher, G.*	5,859	
Atkinson, A. R.	5,831	
Wilson, C.	5,570	
Menteath, A. A. S.	5,560	
Fraser, F. H.	1,811	
Powell, J. J. K.	185	
Warburton, A.	91	37,624
City of Nelson :		
Graham, J.	2,061	
Piper, J.	1,718	3,779
Motueka :		
McKenzie, R.	1,306	
Hursthouse, R.	1,180	
Franklyn, W. N.	492	2,978
Wairau :		
Mills, C. H.	2,068	
Buick, T. L.	2,015	4,083
Buller :		
O'Regan, P. J.	2,310	
Colvin, J.	2,023	4,333
Grey :		
Guinness, A. R.	2,653	
Bell, R. F.	788	3,441
Westland :		
Seddon, R. J.	2,707	
Grimmond, J.	824	3,531
Ashley :		
Meredith, R.	1,700	
Reece, H. F.	1,328	
Renner,.G.	329	3,357
Kaiapoi :		
Moore, R.	2,145	
Buddo, D.	1,886	4,031
Avon :		
Tanner, W. W.	1,552	
McIntyre, G.	1,095	
Swann, G.	307	
Burgess, C.	84	3,038
City of Christchurch :		
Lewis, C.	6,570	
Smith, G. J.	5,940	
Taylor, T. E.	5,445	
Collins, W. W.	5,309	
Ell, H. G.	4,705	
Beswick, H. J.	3,874	
Donnelly, M.	3,709	
Cullen, W.	3,365	
Marciel, J. A. H.	2,982	
Taylor, R. M.	555	
Partridge, J. T.	97	42,551
Lyttelton :		
Joyce, J.	1,734	
Jacques, W.	1,288	
Webb, S. R.	458	3,480
Riccarton :		
Rolleston, W.	1,834	
Russell, G. W.	1,443	3,277
Ellesmere :		
Montgomery, W. H.	1,806	
Anson, F. A.	1,245	3,051
Selwyn :		
Wason, J. C.	1,676	
Saunders, A.	1,494	3,170
Ashburton :		
Wright, E. G.	1,320	
McLachlan, J.	1,078	
Sawle, J. W.	981	
Ivess, J.	227	3,606
Geraldine :		
Flatman, F. R.	1,893	
Rhodes, A. E. G.	1,682	3,575
Timaru :		
Hall-Jones, W.	2,181	
Smith, F. H.	1,541	3,722
Waitaki :		
Steward, W. J.	2,012	
Sutherland, D.	1,013	
Clarke, C. V.	299	
Parker, H. R.	155	3,479
Oamaru :		
Duncan, T. Y.	2,297	
Sievwright, J. D.	1,526	3,823

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* An election petition against the return of Mr. G. Fisher, lodged by Mr. A. R. Atkinson, the candidate who stood fourth at the poll, was tried in February, 1897, before two Judges sitting as an Election Petition Court. A re-count and scrutiny of votes polled by Messrs. Fisher and Atkinson resulted in a report that "the said George Fisher was found to have polled 5,829 votes, and the said Arthur Richmond Atkinson 5,789 votes, giving thereby the said George Fisher a majority of forty votes." The Court determined that the said George Fisher was duly elected. For full grounds of petition see *Hansard*, Sess. I., 1897, p. 7.

The same Court determined that the election of Mr. T. M. Wilford was void, the grounds of the petition being corrupt and illegal practices. Mr. Charles Wilson was elected for Suburbs of Wellington on 23rd April, 1897; the votes recorded being—for Mr. Wilson, 2,036; for Mr. Atkinson, 1,900. The same Court upheld the election of Henare Kaihau, after hearing a petition against it.

† Sir R. Stout resigned his seat on 10th February, 1898, and Mr. J. Duthie was elected on 12th March, 1898. Mr. Duthie was opposed by Mr. R. C. Kirk, and the votes recorded were—for Mr. Duthie, 7,304; for Mr. Kirk, 6,270.

Electoral Districts and Names of Candidates.	Number of Votes recorded. For each Candidate.	Number of Votes recorded. Total.
Waihemo:		
McKenzie, J. ..	1,926	
Duncan, J., jun. ..	1,372	3,298
Waikouaiti:		
Allen, E. G... ..	1,427	
Ramsay, J. J. ..	661	
Green, J.	588	
Thomson, A. ..	370	
Clark, G. J... ..	57	3,103
City of Dunedin:		
Mackenzie, M. J. S. ..	7,821	
Millar, J. A. ..	6,236	
Fish, H. S.* ..	6,067	
Pinkerton, D. ..	5,723	
Hutchison, W. ..	5,016	
Begg, A. C.	4,412	
Earnshaw, W. ..	2,421	
Gore, J.	1,300	
Burton, A. H. ..	374	
Aston, M.	272	
Lester, F. M. ..	209	
Nicol, D.	196	40,047
Caversham:		
Morrison, A. ..	2,307	
Sidey, T. K. ..	1,126	
Wardrop, W. ..	664	
Barron, W.	305	4,402
Taieri:		
Carncross, W. C. F. ..	1,679	
Graham, J.	1,159	2,838
Bruce:		
Allen, J.	2,039	
Auld, W.	979	3,018
Tuapeka:		
Larnach, W. J. M.† ..	1,589	
Rawlins, C. C. ..	1,568	3,157
Clutha:		
Thomson, J. W. ..	1,991	
Edie, J.	1,076	
Ayson, T.	415	
Blair, J.	204	3,686
Mataura:		
Richardson, G. F.‡ ..	2,052	
McNab, R.	1,851	3,903
Wakatipu:		
Fraser, W.	1,595	
George, J.	1,260	
Graham, H. ..	128	2,983
Wallace:		
Gilfedder, M. ..	820	
Neave, T.	655	
Valentine, H. S. ..	645	
Hirst, H.	510	
Mackintosh, J. ..	500	3,130
Invercargill:		
Kelly, J. W. ..	2,238	
Sinclair, J.	1,659	
Scandrett, W. B. ..	646	4,543
Awarua:		
Ward, J. G.§ ..	1,836	
Cowan, C.	1,051	2,887

—	1896.	1893.	1890.
Number of votes recorded for members elected ..	184,929	153,663	88,150
Number of votes recorded for defeated candidates	174,475	149,413	61,875
Total votes recorded‖ ..	359,404	303,076	150,025
Number of names on rolls in districts uncontested	..	10,539	13,688
Number of names on rolls in districts where elections were contested	339,230	292,458	169,483
Total number of electors ..	339,230	302,997	183,171
Total population at last census	703,119	626,359	573,557

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* Mr. H. S. Fish died on 23rd September, 1897, and Mr. A. Sligo was elected on 18th October, 1897. Mr. Sligo was opposed by Messrs. H. Gourley and W. Hutchison; the votes recorded being 5,045 for Mr. Sligo, 4,065 for Mr. Gourley, and 2,030 for Mr. Hutchison.

† The Tuapeka seat became vacant by the death of Hon. W. J. M. Larnach on 12th October, 1898, and Mr. Charles Champion Rawlins was elected in his stead on 2nd November, 1898. Mr. Rawlins was opposed by Messrs. Ramsay, Gilkison, Symes, and Sim, the votes recorded being 1,118 for Mr. Rawlins, 844 for Mr. Ramsay, 504 for Mr. Gilkison, 296 for Mr. Symes, and 14 for Mr. Sim.

‡ Hon. G. F. Richardson's seat was declared vacant on 19th April, 1898, and Mr. R. McNab was elected in his place on 26th May, 1898. Mr. McNab was opposed by Mr. W. F. Ward, and the votes recorded were 1893 for Mr. McNab and 1505 for Mr. Ward.

§ Hon. J. G. Ward resigned his seat on 14th July, 1897, and was re-elected on 13th August, 1897. Opposed by Mr. Cowan. Votes recorded—2,041 in favour of the Hon. J. G. Ward, and 913 in favour of Mr. Cowan.

‖ Total number of electors who recorded their votes: 258,254 in 1896, and 220,082 in 1893.

For Maori Representatives.

(Polling-day, 19th December, 1896.)

Of a Maori population amounting to 39,854 persons, 13,008 voted at the general election. In 1893 the voters numbered 11,269, or 1,739 persons fewer than on the last occasion. As the Native population did not increase between 1891 and 1896, but rather diminished somewhat, it would appear that Maoris are taking more interest as to their representation in Parliament than formerly, or that there is now more convenience for attending to vote and better knowledge of political affairs. The numbers of voters for the several districts were:—

Electoral Districts	Population.			Number who voted.	Per Cent. of Population at all Ages.
	Males.	Females.	Totals.		
North Island—					
Northern Maori ..	5,165	4,010	9,175	2,104	22·93
Eastern Maori ..	6,931	6,064	12,995	4,164	32·00
Western Maori ..	8,247	6,893	15,140	6,072	40·11
Middle Island—					
Southern Maori ..	1,330	1,214	2,544	668	26·26
Totals ..	21,673	18,181	39,854	13,008	32·64

The votes recorded for each candidate were:—

Electoral Districts and Names of Candidates.	Number of Votes recorded.	
	For each Candidate.	Total.
Northern Maori Electoral District:		
Hone Heke	1,706	
Eparaima Kapa ..	398	2,104
Eastern Maori Electoral District:		
Wi Pere	2,549	
Tamati Tautuhi ..	805	
Tare Mete	563	
Maika Taruke ..	182	
Eriata Nopera ..	65	4,164
Western Maori Electoral District:		
Henare Kaihau ..	1,601	
Ropata te Ao ..	887	
Mehia Keepa te Rangihiwinui	866	
Ngarangi Katitia ..	662	
Hone Omipi ..	577	
Western Maori Electoral District—contd.		
Te Aohau Nikitini ..	435	
Pepene Eketone ..	351	
Wiremu Ngapaki ..	261	
Reha Aperahama ..	185	
Te Ramana Nutana ..	168	
Wirihana Hunia ..	49	
Hohepa Horomana ..	22	
Te Kahui Kararehe ..	8	6,072
Southern Maori Electoral District:		
Tame Parata ..	262	
Tame Rangiwahia Erihana	149	
Riki te Mairaki Taiaroa	144	
Teoti Pita Mutu ..	113	668
Total.. ..		13,008

GENERAL ELECTIONS FOR EUROPEAN REPRESENTATIVES HELD FROM THE YEAR 1853.

Parliament.	Date of General Election.	Number of Names on Roll of Electors.	Number of Members returned.	Number of Members returned unopposed.	Number of Votes recorded (or of Voters recording Votes).	Population of the Colony at end of Year.	Average Number of		
							Persons to each Member.	Persons to each Elector.	Electors to each Member.
First	1853	[1] 5,934	37	*	*	30,000	811	5·1	160
Second	1855	[2] 10,324	37	*	*	37,192	1,005	3·6	279
Third	1861	13,466	53	*	*	79,711	1,504	5·9	254
Fourth	1866	[3] 33,338	72	*	*	190,607	2,647	5·7	463
Fifth	1871	47,275	74	*	*	248,400	3,357	5·3	639
Sixth	1875	61,755	84	*	*	375,856	4,474	6·1	735
Seventh ..	1879	82,271	84	14	43,776	463,729	5,521	5·6	979
Eighth	1881	120,972	91	11	69,985	500,910	5,505	4·1	1,329
Ninth	1884	137,686	91	11	74,672	564,304	6,201	4·1	1,513
Tenth	1887	175,410	91	5	111,911	603,361	6,630	3·4	1,928
Eleventh ..	1890	183,171	70	6	136,337	625,508	8,936	3·4	2,617
Twelfth.. ..	1893	[4]302,997	70	3	[4][5]220,082	672,265	9,604	2·2	4,328
Thirteenth ..	1896	[4]339,230	70	..	[4][5]258,254	714,162	10,202	2·1	4,853

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* Information not obtainable.

[1] Including 100, the estimated number in Akaroa District, for which there is no return,

[2] Including 800, the estimated number in the electorates of Town of New Plymouth. Grey and Bell, and Omata, for which districts there are no returns.

[3] Electors for the Electoral District of "The Otago Goldfields" not included.

[4] Men and women.

[5] Voters recording votes.

SECTION V.—EDUCATION.

THE replies given by householders to the inquiry on the census schedules for 1896 showed that in every 100 persons living (excluding Chinese), 80·60 per cent. could read and write, 2·89 could read only, and 16·51 were unable to read. The proportion per cent. unable to read fell from 23·72 in 1878 to 21·19 in 1886, and further to 16·51 in 1896. Of those who could read only, the proportion diminished from 6·76 in 1878 till in 1896 it stood at 2·89 per cent.

The following shows the percentages at each census period :—

	Read and Write.			Read only.			Cannot read.		
	Persons.	M.	F.	Persons.	M.	F.	Persons.	M.	F.
1878 ..	69·52	72·11	66·33	6·76	5·91	7·80	23·72	21·98	25·87
1881 ..	71·32	73·31	68·94	5·63	5·01	6·39	23·05	21·68	24·67
1886 ..	74·01	75·40	72·41	4·80	4·36	5·31	21·19	20·24	22·28
1891 ..	77·27	77·97	76·48	3·97	3·74	4·24	18·76	18·29	19·28
1896 ..	80·60	81·06	80·09	2·89	2·71	3·08	16·51	16·23	16·83

Besides the improvement in the degree of education shown above, which is observed in respect of females as well as males, it will be noticed that whereas the difference in the percentage able to read and write is very considerably in favour of the male sex for the year 1878, the proportions approximate more closely at each successive census year, until in 1896 there are found to have been 80·09 per cent. of the female sex who could read and write, against 81·06 of males. Doubtless when the results of the next census are known, the education of the females, taking as a standard the knowledge of reading and writing, will be equal to that of the males. But with a system of free and compulsory education this would be expected in time, and the census results have no longer the degree of importance or interest they had years ago.

In considering the proportions of the population at different age-periods the improvement in education is even more clearly proved. It is found that in 1896, of persons at the age-period 10–15 years, 98·73 per cent. were able to read and write, while 0·65 per cent. could merely read, and 0·62 per cent. were unable to read. The proportion who could not read increased slowly with each succeeding quinquennial period of age until at 50–55 years it stood at 4·04 per cent. At 75–80 years the proportion was 7·05, and at 80 and upwards it advanced to 8·07. Similarly, the proportion of persons who could read only increased from 0·65 at 10–15 years to 3·66 at the period 50–55 years, and again to 9·74 at 80 and upwards. The better education of the people at the earlier ages is thus exhibited.

Further evidences of improved education will be found in the portion of this work relating to marriages, where it is shown that the proportion of persons in every 1,000 married who signed by mark has fallen very greatly since 1881. The figures for the sexes in the year 1881 were 32·04 males and 57·94 females, against 6·19 males and 7·02 females in 1896.

SCHOOLS.

It has been found impossible to collect the full statistics relating to schooling for the year 1898 in time for this work, and the figures for the previous year are accordingly given.

The number of schools, teachers, and scholars, as in December 1897, is shown in the following summary:—

Description of Schools.	Number of Schools.	Teachers.	Scholars.
EUROPEAN.			
Public (Government) schools (scholars other than Maoris and half-castes)	1,585	3,628	129,937
Public (Government) schools (half-castes living among Europeans)			1,002
Colleges, grammar, and high schools (aided or endowed)	24	184	2,709
Private schools (excluding Maori scholars) ..	278	765	14,447
Industrial schools and orphanages	8	..	727
Native village schools, European children attending	..	..	296
Private Native boarding-schools, European children attending	..	..	32
School for deaf-mutes	1	6	47
Jubilee Institute for Blind	1	2	16
Totals—Europeans	1,897	4,585	149,213
NATIVE.			
Native village schools supported by Government (excluding European children stated above) ..	74	134	2,568
Private Native boarding-schools (maintenance of scholars paid by Government)	4	14	75
Private Native boarding-schools (maintenance of scholars paid from endowments)			131
Private Native day-schools	3	4	77
Public (Government) schools, Maoris attending	..	..	1,101
Public (Government) schools, half-castes living as Maoris attending	..	..	157
Private schools for Europeans, Maoris attending	..	..	77
Totals—Natives	81	152	4,186

Thus at the end of 1897 there were 1,978 schools of all classes at which members of the European and Maori races were being educated. This was an increase of 47 on the number in 1896. The public primary schools numbered 1,585 in 1897, against 1,533 in 1896. The number of aided or endowed colleges, grammar, and high schools was 24, the same as in the previous year. The number of private schools from which returns were received by the Registrar-General was 278, a decrease of 5. There were also 8 industrial schools and orphanages, public and private, as well as a school for deaf-mutes subsidised by Government, and a school for the blind.

The number of schools established for the education of the Native or Maori race was 81, the same number as in 1896.

Education at the public schools is free (except that, at such as are also district high schools, fees are charged for the teaching of the higher branches) and purely secular. The attendance of all children between the ages of 7 and 13 is compulsory, except when special exemptions are granted, or a child is being otherwise sufficiently educated.

The subjects of instruction at the primary schools are required by the Education Act to be the following: Reading, writing, arithmetic, English grammar and composition, geography, history, elementary science and drawing, object-lessons, vocal music, and (in the case of girls) sewing and needlework, and the principles of domestic economy. Provision must also be made for the instruction in military drill of all boys in these schools.

Technical Education.

"The Manual and Technical Elementary Instruction Act, 1895," provides for the granting of subsidies to classes established for instruction in such branches of science and art as are encouraged by the Science and Art Department (South Kensington) and the City and Guilds of London Institute, and also to workshops connected with public schools; and the same Act allows part of the ordinary school-time to be given to elementary manual instruction. During 1897, subsidy was paid on classes in drawing and painting, clay-modelling, carpentry and other woodwork, upholstery, plumbers' work, painters' work, ironwork, mechanical engineering, mechanics, physics, chemistry, agricultural analysis, laundry work, dressmaking and millinery, cookery, mathematics and geometry, shorthand, and bookkeeping. In several of the high schools manual and technical instruction is given as part of the school course.

There are four fully-equipped Schools of Art, the classes in which during 1897 were attended by about 1,335 students.

In connection with the Canterbury College there is an endowed School of Engineering and Technical Science, the students in which work for the university degree of B.Sc. in Engineering. Eighty-five students attended in 1897.

The Canterbury Agricultural College has an endowment of over 60,000 acres of land, and possesses extensive buildings, and an experimental farm of a very complete character. The students work for the university degree of B.Sc. in Agriculture. There were 38 students in 1897.

There are two Government Schools of Mines located in districts in which mining is actively carried on, and the Otago University maintains a professorial chair of mining and metallurgy, to which the Government makes an annual grant of £500. The number of students in mining in 1897 was 252.

As stated, the Act makes it lawful for any Education Board to order that manual instruction be given in any public school under its control as if manual instruction had been included in the list of subjects prescribed in the Education Act.

With the view of encouraging attendance at technical schools and classes, arrangements have been made with the Railway Department by which teachers of classes registered with the Minister of Education may give certificates to their pupils which will enable them to obtain railway tickets at special rates.

During the year examinations were held upon papers supplied by the Science and Art Department (South Kensington), and the City and Guilds of London Institute.

The following table shows the number of papers worked at the English examinations held in the colony, and the number of successes:—

LONDON TECHNICAL AND ART EXAMINATIONS, 1897.

Subjects of Examination.	Auckland.		Wanganui.		Wellington.		Wellingt'n* Sub-centres.		Nelson.		Christchurch.		Dunedin.	
	Candidates.	Passes.	Candidates.	Passes.	Candidates.	Passes.	Candidates.	Passes.	Candidates.	Passes.	Candidates.	Passes.	Candidates.	Passes.
SCIENCE AND ART DEPARTMENT.														
Art.														
Drawing in light and shade (elementary)	3	2	8	7	42	30	1	...	5	5	12	12	32	24
Drawing in light and shade (advanced)	2	1	7	7	23	23	...	...	...	...	5	5	17	17
Perspective (elementary) ...	1	1	4	3	16	14	4	3	5	2	11	8	2	1
Perspective (advanced)	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Model drawing (elementary) ...	2	2	13	5	62	41	8	5	5	3	39	26	56	41
" (advanced) ...	2	1	4	3	16	16	...	...	...	...	4	4	12	12
Freehand drawing of ornament (elementary)	10	8	42	35	66	46	26	16	5	5	42	34	78	51
Freehand drawing of ornament (advanced)	4	2	12	9	11	11	...	...	...	...	6	6	19	19
Geometrical drawing (art) ...	2	2	1	1	...	...	...	...	...	...	...	...	22	20
Design (elementary)	...	...	...	...	3	1	...	...	...	...	...	...	...	...
" (advanced)	...	...	...	...	2	2	...	...	...	...	...		...	...
Painting from still life	...	...	3	...	6	3	...	...	...	...	9	6	1	1
Drawing from the life	...	...	...	...	4	1	...	...	...	...	3	3	...	...
Drawing from the antique ...	...	...	...	...	10	5	...	...	...	...	4	3	2	2
Painting ornament in monochrome	...	...	1	1	...	...	...	...	...	...	...	...	1	1
Principles of ornament (elementary)	...	...	...	...	1	1	...	...	...	...	...	...	1	1
Students' works	...	...	17	7	28	11	...	...	...	...	...	...	7	1
Science.														
Practical plane and solid geometry	...	...	...	...	10	2	7	1	5	2	7	2	16	9
Mathematics, stages 1, 2, 3 ...	3	3	...	...	11	6	...	...	...	...	...	...	1	...
Magnetism and electricity ...	...	...	...	...	1	1	...	...	...	...	...	...	...	...
Machine construction and drawing	15	9	...	...	8	7	...	...	...	...	...	...	7	6
Building construction	7	3	...	...	11	9	...	...	...	...	...	...	11	8
Practical inorganic chemistry ...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Inorganic chemistry (theory) ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Applied mechanics	...	...	...	...	...	...	...	...	...	...	...	...	3	3
CITY AND GUILDS OF LONDON INSTITUTE.														
Painters' and decorators' work ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Telegraphy	...	...	...	...	1	1	...	...	...	...	...	...		...
Mechanical engineering ...	...	...	...	...	1	1	...	...	...	...	...	...	1	1
Plumbing (preliminary) ...	2	2	...	..	...	...	...	...	...	...	...	...	...	...
" (written)	2	2	...	...	12	12	...	...	...	...	...	...	5	5
" (practical)	3	3	...	...	7	7	...	...	...	...	...	...	4	4
Totals	59	42	112	78	352	251	46	25	25	17	142	109	301	229

Total of papers, 1,037; total of passes, 751.

* *Pahiatua, Masterton*, Featherston, Levin, and Westport.

The expenditure on technical education for the year 1897 was approximately as follows: Technical classes and examinations, £2,932; Schools of Art, £4,302; School of Engineering, £1,489; Agricultural College, £5,554; Schools of Mines, £2,001: total, £16,278. Of this sum, £4,933 was paid by the Government; £4,788 was from endowments, or from funds derived indirectly from the Government; and £6,557 was from fees, sale of farm produce, &c.

The Aid to Public Works and Land Settlement Act Amendment Act, passed in 1897, provided for raising a sum of £25,000 for the purposes of building and equipment of technical schools.

Extracts from the reports of the Committee of Council of Education for the United Kingdom, 1895 and 1896, are quoted, as highly instructive, being explanatory of the aim and objects of technical education:—

1895.

Much attention has been given of late years to the need of giving right direction to the activity and intelligence of children, especially in the earlier stages of their school life. It is felt that one of the chief aims of education should be to train the scholar to acquire knowledge for himself by observation and experiment. This power, however, so far from being developed, is actually stunted and suppressed when the scholar is treated as the passive recipient of information. If the child does not really assimilate what he learns the natural activity of the mind is deadened, and he may leave school with healthy interests unawakened, and with the faculty of accurate and independent observation still untrained. The effects of such mechanical instruction may at the moment appear satisfactory, but are, in fact, superficial and transitory, and must therefore prove in the end disappointing, if not actually harmful. We have, therefore, done what is in our power to encourage a more living form of education by means of teaching designed to cultivate the habit of observation, and the further use of the various powers of expression. Deftness of hand, correctness of eye, power with the pencil and the brush, the study of actual objects at first hand, and the habit of using the faculty of intelligent observation, have, we are glad to think, all become in recent years a more important part of the educational aim of our elementary schools. Not so much because training of this kind prepares the scholar more readily to acquire in due time practical dexterity in his occupation or trade, but because it develops a many-sided interest in his school-work, and because it forms a valuable element in mental and moral discipline, and tends to the more harmonious development of the whole of a child's faculties, we have approved its introduction in various forms into the curriculum of elementary schools. Experience has already shown that this form of teaching, where wisely arranged, has been attended with success. . . . .

1896.

The movement for the introduction of manual training into all classes of schools as a corrective to an excess of book-work seems to be gaining strength in this as in other countries. It is felt that the exercise of hand and eye, as well as of the memory and the powers of verbal expression, is necessary to true education. It appears to be true that the process of growth in a child's mind is furthered by manual training, and that the latter promotes the attainment of power and accuracy in other studies. These considerations point to a closer correlation between manual training and the other subjects of school curriculum, the former being rightly regarded as an integral part of school training, and not as an optional or disconnected appendix to it. In this wider sense the training of hand and eye finds a place in the kindergarten as well as in schools for older scholars, but in the latter case it naturally takes other forms. Varied occupations in the former class of schools, and, in the latter, brushwork, clay modelling (with special reference to lessons in history and natural science), and cardboard work, have all been found useful in stimulating the activity and developing the inventive powers of the children. But in the case of the schools for older scholars there is some danger lest manual training should be advocated and introduced less for the purpose of cultivating the general powers of the child than from a mistaken desire to impart premature dexterity in some particular craft or home employment. It is happily the case that manual training, when wisely planned, does carry with it the incidental advantage of enabling the scholar to acquire useful skill which will increase the comfort and economy of home life. Yet it is not on this side of the matter, important as it is, but on the educational value of the training that stress must be laid, if we are to escape the disappointment which followed on the excessive attention paid to narrow forms of manual instruction in the older schools of industry.

We are glad, therefore, to observe that increasing attention is being given in our public elementary schools to such subjects as cookery, housewifery, woodwork, and gardening. When properly arranged these lessons have great influence on the efficiency of the school. Many children who are backward in literary expression show a compensating aptitude for expression with their hands, and others are saved from the dangerous discouragement which sometimes forces them without desert into the dunce's place. Carpentry is a delight to most boys when they are old enough to use the necessary tools; and we have sanctioned during the past year an addition to our building rules with the object of securing that rooms for woodwork should be planned with the simplicity and economy suitable for workshops. The manual training of girls naturally takes the form of needlework, cookery, and laundry-work, and is therefore specially liable to the errors of treatment which convert what should be an educational discipline into a premature form of technical instruction. At the same time we observe with satisfaction that more thought is being given to the ways of teaching these subjects, and we are far from desiring to substitute unreal or fanciful forms of instruction for the more homely, but withal scientific, lessons which best arouse the interest of the children, because they are nearer to their personal experience of daily needs and to the actual circumstances of their home life. It is a grave blunder in a cookery lesson to ignore the humbler and more ordinary forms of food, or to provide stoves or appliances of a kind necessarily unknown in cottage life. Equally serious, on the other hand, is the mistake of giving merely rote instruction in subjects which admirably lend themselves to the teaching of the principles underlying wise action, and to the training of those powers of observation and judgment which are essential to the wise husbanding and economical employment of narrow means. We observe, however, from the general reports of the Directress of Needlework and of the Inspectress of Cookery, that much still needs to be done in order to raise the educational value of the instruction in cookery and needlework in many schools. In others, on the other hand, the teaching of cookery has been so efficient that the lessons have been found to produce a perceptible and satisfactory improvement in the homes of the working-classes.

Victoria College.

In December, 1897, an Act was passed by the General Assembly establishing, in commemoration of the sixtieth year of the reign of Her Majesty Queen Victoria, for the promotion of higher education, a college at Wellington, to be styled "The Victoria College," and to be in connection with the New Zealand University. It is governed by a Council of sixteen members. Three of these are appointed by the Governor in Council. Another three are elected by such members of the Legislative Council as are resident in any of the Wellington, Nelson, Westland, Marlborough, Hawke's Bay, and Taranaki Provincial Districts, and by such of the members of the House of Representatives as for the time being represent electoral districts in those provincial districts. A group of three is elected by such of the graduates of the New Zealand University as are for the time being on the books of the College (meanwhile by holders of university degrees in the districts named above), and another group of three elected by adult persons holding certificates under section 45 of "The Education Act, 1877," and resident in the above provincial districts. A further group of three members is elected by members of the Education Boards wholly or partly in the above-named provincial districts, and one member elected by the Professorial Board of the College itself.

Provision is made for appropriation and endowment for the purpose of bringing higher education within reach of deserving scholars in the colony: six Queen's scholarships, tenable for five years, are to be offered for competition every year, each of an annual value of £20, to holders studying where their home is situated, and £40 if studying elsewhere.

New Zealand University.

The New Zealand University is not a teaching body; undergraduates have hitherto for the most part kept their terms at one or other of the following affiliated institutions: the Auckland University College, the Canterbury College, and the University of Otago, each of which has a staff of professors and lecturers. On the 1st June, 1898, the number of graduates who had obtained direct degrees was 603. The number of undergraduates on the roll of the University at that date was 1,897 (exclusive of such as had not performed any academical act for a period of ten years), but only 863 were keeping terms, of whom 603 were males and 260 females. Sixty-six of the males and 10 of the females were medical students. The numbers of students attending lectures at the affiliated institutions during the year 1897–98 were as follow: At the Auckland University College, 68 matriculated and 137 non-matriculated; at Canterbury College, 144 matriculated and 54 non-matriculated; at the Otago University, 223 matriculated and 27 non-matriculated. The establishment of the Victoria College, before-mentioned, will afford further facilities for University students.

Private and Denominational Schools.

There were 278 private schools in the colony at the end of 1897, a decrease of 5 on the number in 1896: 28 were for boys, 43 for girls, and 207 for children of both sexes. The number of pupils attending them was 14,447—namely, 5,974 boys and 8,473 girls, not counting Maoris, 14 boys and 63 girls. The number of European pupils at these schools was more than in 1896 by 500. Of the private schools, 120 were Roman Catholic, with an attendance of 9,642 pupils.

The following gives, for the past ten years, the number of private schools and of Europeans attending them, the number of Roman Catholic schools and pupils being also shown separately:—

Year.	Number of Private Schools.	Pupils.			Included in Previous Numbers.	
		Boys.	Girls.	Totals.	Roman Catholic Schools.	Pupils at Roman Catholic Schools.
1888	299	5,874	7,979	13,853	96	9,346
1889	293	5,778	7,680	13,458	95	9,024
1890	298	5,759	7,867	13,626	108	9,474
1891	281	6,234	7,908	14,142	110	10,144
1892	274	6,321	8,135	14,456	105	10,111
1893	299	6,431	8,491	14,922	111	10,263
1894	302	6,117	8,510	14,627	117	9,953
1895	298	6,187	8,472	14,659	114	10,458
1896	283	5,845	8,102	13,947	115	9,590
1897	278	5,974	8,473	14,447	120	9,642

The total number of children of European descent (including such half-castes as live among Europeans) known to be receiving education at school at the end of 1897 was 149,213; of these, 142,429 were from 5 to 15 years of age. The census showed also 6,352 children receiving tuition at home in 1896, against 8,178 in 1891. No doubt increased school accommodation in country places does away with the need for tutors and governesses to a certain extent.

The distribution of the private schools in the various provincial districts of the colony is shown in the two following tables:—

PRIVATE SCHOOLS, 1897.—SUMMARY BY PROVINCIAL DISTRICTS.

Provincial Districts.	Number of Schools.				Number of Teachers.			Number of Scholars.			Daily Average Attendance.		
	Boys.	Girls.	Mixed.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Auckland	6	9	62	77	41	140	181	1,506	2,089	3,595	1,292	1,854	3,146
Taranaki	...	1	12	13	2	30	32	153	296	449	128	257	385
Hawke's Bay	3	3	9	15	9	30	39	398	388	786	362	331	693
Wellington...	6	11	31	48	43	114	157	1,227	1,722	2,949	1,077	1,551	2,628
Marlborough	1	...	5	6	...	12	12	130	156	286	101	132	233
Nelson	2	3	10	15	8	31	39	293	478	771	254	415	669
Westland	1	...	7	8	3	19	22	240	299	539	200	253	453
Canterbury	6	10	39	55	16	141	157	1,100	1,696	2,796	938	1,522	2,460
Otago	3	6	32	41	11	115	126	927	1,349	2,276	794	1,180	1,974
Totals	28	43	207	278	133	632	765	5,974	8,473	14,447*	5,146	7,495	12,641

* Exclusive of 77 Maoris (14 boys, 63 girls).

NOTE.—Denominational schools, such as Roman Catholic and Anglican, are included in the above as private schools. Particulars for the Roman Catholic schools in December, 1897, are as under:—

SUMMARY OF ROMAN CATHOLIC SCHOOLS.

Provincial Districts.	Number of Schools.				Number of Teachers.			Number of Scholars.			Daily Average Attendance.		
	Boys.	Girls.	Mixed.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Auckland	4	6	23	33	9	69	78	807	1,169	1,976	556	1,022	1,678
Taranaki	...	1	3	4	...	16	16	92	178	270	75	153	228
Hawke's Bay	1	1	4	6	3	18	21	278	308	586	250	258	508
Wellington	3	4	10	17	24	54	78	779	1,106	1,885	684	1,013	1,697
Marlborough	1	...	2	3	...	8	8	123	115	238	94	94	188
Nelson	1	2	6	9	...	21	21	183	362	545	149	308	457
Westland	1	...	6	7	3	18	21	225	284	509	188	244	432
Canterbury	3	5	12	20	11	67	78	827	1,122	1,949	697	1,008	1,705
Otago	3	1	17	21	10	59	69	782	902	1,684	691	804	1,495
Totals	17	20	83	120	60	330	390	4,096	5,546	9,642	3,484	4,904	8,388

Schools for Natives.

The number of Native village schools at the end of 1897 either supported or subsidised by the Government was 74 — the same number as in 1896. In addition, there were four boarding-schools for Native children, the cost of whose maintenance was paid either by the Government or from endowments, and three private Native day-schools.

The number of Maori children attending schools at the end of 1897 was 4,186—namely, 2,341 males and 1,845 females. These included 310 half-castes at the Native village schools who were living as members of Maori tribes, and 157 at public European schools.

The numbers at the several schools in 1897 and 1896 were as follow:—

Schools.	Maori Children attending Schools.					
	Boys.		Girls.		Total of both Sexes.	
	1897.	1896.	1897.	1896.	1897.	1896.
At public European schools ..	746	667	512	419	1,258	1,086
At Native village schools ..	1,424	1,355	1,144	1,104	2,568	2,459
At subsidised or endowed boarding-schools	103	102	103	89	206	191
At private European or Native schools	68	68	86	48	154	116
Totals	2,341	2,192	1,845	1,660	4,186	3,852

There was thus, in 1897, an increase of 149 in the number of Maori boys, and an increase of 185 in the number of Maori girls attending school.

Income and Expenditure of Education Boards.

The total income of the various Education Boards for the year 1897 was £496,176. The grants by Government amounted to £452,039, an increase of £58,380 on the grants in 1896. These grants consist of (*a*) a statutory allowance of £3 15s. per child in daily average attendance, (*b*) a further capitation allowance of 1s. 6d. for scholarships, and (*c*) a varying sum for school-buildings. The income from reserves amounted to £38,857, and that from local receipts, interest, and miscellaneous sources to £5,280.

The total expenditure in 1897 amounted to £493,864, of which the sum of £407,786 was laid out on the maintenance of the schools, £12,537 used to meet expenses of the Boards, £12,615 spent on inspection of schools and examination of pupil-teachers, £60,486 on school-buildings, and £440 on miscellaneous services.

The receipts and expenditure of the Education Boards, which number ten altogether, are tabulated below, with further particulars:—

RECEIPTS AND EXPENDITURE OF EDUCATION BOARDS.

Dr.	£	s.	d.	*Cr.*	£	s.	d.
To Balance, 1st January, 1897	12,005	13	3	By Boards' administration ...	12,536	14	11
Government grants—				Inspection and examination	12,614	18	5
Maintenance	393,358	14	3	Teachers' salaries and allowances, and training	362,985	11	7
Buildings	57,527	1	3	Incidental expenses of schools	36,918	4	10
Technical	1,153	9	0	Scholarships	7,883	3	5
Reserves revenues ...	38,857	1	9	Interest	205	5	7
Local receipts—				Buildings, sites, plans, &c.	60,485	18	7
Fees, donations, &c. ...	3,859	0	3	Refunds and sundries ...	234	16	10
Rents, sales, &c. ...	859	14	4	Balances	14,317	17	3
Interest	175	2	8				
Refunds, deposits, &c. ...	386	14	8				
	£508,182	11	5		£508,182	11	5

Scholarships.

Particulars of the scholarships and the expenditure of the Boards thereon in 1897 are given in detail. The only institutions for the training of teachers are in North Canterbury and Otago. These two institutions have received grants-in-aid of £300 each.

SCHOLARSHIPS.

Education Districts.	Number held in Dec., 1897.	Boys.	Girls.	Period of Tenure.	Boards' Expenditure on Scholarships in 1897.	Annual Value, &c.
				Years.	£ s. d.	
Auckland ...	77	47	30	3	1,707 18 7	9 at £30, 15 at £25, 22 at £20, 31 at £15.
Taranaki ...	6	5	1	2	213 6 3	3 at £35, 3 at £10.
Wanganui ...	13	10	3	Varies	523 17 11	10 at £40, 1 at £20, 2 at £15.
Wellington ...	38	21	17	2	731 1 3	9 at £30, 29 at £15.
Hawke's Bay ...	28	17	11	2	547 14 0	10 at £30 4s., 18 at £10 4s.
Marlborough ...	3	1	2	2	120 0 0	£40.
Nelson	6	3	3	2	334 12 0	£52 12s.
Grey	8	5	3	3	100 0 0	4 at £25 and tuition, 4 tuition only.
Westland ...	8	6	2	2	113 10 0	2 at £23, 1 each at £15 10s., £12, £5 10s., £3 at £8.
North Canterbury	34	21	13	2	1,042 3 7	12 at £40, 22 at £20.
South Canterbury	22	11	11	2	404 12 9	6 at £34, 2 at £28, 1 at £17, 1 at £14, 1 at £9, 11 at £4.
Otago	56	36	20	Varies	1,375 10 9	10 at £40, 5 at £35, 1 at £24, 3 at £22, 17 at £20, 1 at £17, 19 at £15.
Southland ...	20	16	4	Varies	554 18 4	9 at £35, 11 at £20.
Totals, 1897 ...	319	199	120	...	7,769 5 5	
Totals, 1896 ...	305	189	116	...	7,665 9 11	

Industrial Schools.

The cost of the Government schools and the amount recovered (from Charitable Aid Boards, from parents, from sale of farm produce, &c.) are next shown:—

COST OF GOVERNMENT INDUSTRIAL SCHOOLS, 1897.

School.	Gross Cost of School.			Cost of Boarding out (Included in preceding Column).			Recoveries.			Net Cost.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Auckland	1,119	9	9	493	2	0	242	19	9	876	10	0
Burnham	7,524	7	4	2,847	15	9	2,642	18	2	4,881	9	2
Caversham ..	7,115	3	1	3,505	11	5	3,948	13	5	3,166	9	8
Totals ..	15,759	0	2	6,846	9	2	6,834	11	4	8,924	8	10
Salary and expenses of Visiting Officer										398	8	10
Inmates maintained at other institutions										346	4	3
Contingencies										11	6	0
Total										9,680	7	11

The Government expenditure on the private industrial schools shows a net expenditure of £235 more than the corresponding amount for the preceding year.

GOVERNMENT EXPENDITURE ON PRIVATE INDUSTRIAL SCHOOLS, 1897.

School.	Payments.			Recoveries.			Net Expenditure by Government.		
	£	s.	d.	£	s.	d.	£	s.	d.
St. Mary's, Ponsonby (Auckland)	548	2	0	24	5	4	523	16	8
St. Joseph's, Wellington ..	495	1	9	55	13	0	439	8	9
St. Mary's, Nelson	2,333	11	8	353	2	8	1,980	9	0
Totals	3,376	15	5	433	1	0	2,943	14	5

The total number of inmates of the two kinds of industrial schools is given for the years 1896 and 1897, and the variations in the numbers boarded out, in residence, or at service :—

INMATES OF INDUSTRIAL SCHOOLS, 1896 AND 1897.

—	Boarded out.				In Residence.				At Service, &c.				Totals.			
	Dec., 1896.	Increase.	Decrease.	Dec., 1897.	Dec., 1896.	Increase.	Decrease.	Dec., 1897.	Dec., 1896.	Increase.	Decrease.	Dec., 1897.	Dec., 1896.	Increase.	Decrease.	Dec., 1897.
Government Schools—																
Auckland	30	..	..	30	10	1	..	11	41	..	4	37	81	..	3	78
Burnham	176	..	11	165	105	..	5	100	243	21	..	264	524	5	..	529
Caversham	211	..	21	190	76	12	..	88	195	19	..	214	482	10	..	492
Private Schools—																
St. Mary's, Auckland	..	..	..	..	46	16	..	62	20	..	3	17	66	13	..	79
St. Joseph's, Wellington	4	..	..	4	66	..	4	62	10	2	..	12	80	..	2	78
St. Mary's, Nelson ..	7	..	..	7	253	5	..	258	66	1	..	67	326	6	..	332
Totals ..	428	..	32	396	556	34	9	581	575	43	7	611	1,559	34	5	1,588

The inmates discharged from industrial schools during the year 1897 numbered 150, and the new inmates 179, so that the increase in the number on the books is 29.

In the Government schools the policy is to board out all children of suitable age and character. The authorities of the private schools do not adopt the boarding-out system.

Deaf, Dumb, and Blind Institutions.

The children at the deaf-and-dumb institution at Sumner, near Christchurch, were 47 in December, 1897. The institution is under Government control. The expenditure for the year 1897 was £3,277. The children are taught to speak with the mouth, and to read articulate speech by observing the movement of the lips. The census of 1896 showed a total number of 115 deaf-and-dumb persons under 20 years of age residing in the colony, so that more than one-third of the full number would appear to be living at the institution.

The blind pupils formerly sent to Melbourne or Sydney are now provided for in the Jubilee Institution for the Blind at Auckland. The number at the end of the year was 16. In cases where necessity has been shown, the Education Department pays at the rate of £25 a year for each pupil, recovering what is possible from parents. The number of blind persons under 20 years of age returned at the census of 1896 as living in the colony was 57.

Sunday-schools.

As to attendance at Sunday-schools, figures can only be given for years when the census was taken. For these, a comparison can be made if the teachers be included with the scholars. Proceeding on these lines, a large development is found since 1878:—

ATTENDING SUNDAY-SCHOOLS (INCLUDING TEACHERS).

Census Year.	Totals.	Males.	Females.
1878	62,273	30,707	31,566
1886	99,884	48,509	51,375
1896	116,045	54,063	61,982

The excess of females over males would seem as time goes on to grow greater, both numerically and in proportion to the numbers attending Sunday-school.

The number of scholars at the Sunday-schools in 1896 was 104,934, of whom 50,096 were boys and 54,838 girls. The teachers were 11,111 of both sexes, 3,967 being males and 7,144 females.

PLACES OF WORSHIP.

The total number of buildings returned as used for public worship in 1896 was 1,987, of which 1,431 were churches or chapels. These last increased by 234, or 19 per cent. on the number returned in 1891. The schoolhouses used for worship in 1896 and 1891 were 366 and 241 for the respective years; 190 dwelling-houses were used as churches or chapels at last census. Sitting accommodation was found for 334,509 persons in all buildings utilised for public worship; and the numbers attending services amounted in the aggregate to 209,731. These numbers show increase at the rate of 20·28 and 18·46 per cent. respectively since 1891, while the increase of population during the interval between the two censuses was at the rate of 12·24 per cent.

The following gives the buildings in use for purposes of public worship by the various denominations, as returned at the census of April, 1896. The number of persons belonging to each denomination in the colony was stated under the head of "Religion" on page 107 of the Year-book, 1898:—

Denominations.	Churches and Chapels.	School-houses used for Public Worship.	Dwellings or Public Buildings used for Public Worship.	Number of Persons.	
				For whom Accommodation.	Attending Services.
Church of England ..	414	105	33	76,811	48,117
Roman Catholics ..	212	8	7	52,267	36,080
Catholic Apostolic Church	1	..	..	100	50
Presbyterians	301	152	45	75,881	48,751
Methodists—					
Wesleyan Methodists*	249	60	27	55,772	35,445
Independent Wesleyans	1	1	..	259	180
Primitive Methodists ..	45	9	4	9,325	5,436
Scandinavian Methodists	1	..	..	80	50
Other Denominations—					
Baptists	34	1	1	8,630	5,652
Congregational Independents	20	5	1	6,700	3,475
Lutherans	15	1	..	1,510	806
Society of Friends ..	1	..	..	60	25
Brethren	27	..	9	5,309	2,049
Christian Disciples ..	2	..	1	262	222
Church of Christ ..	15	1	5	4,765	2,738
Christadelphians ..	3	..	4	395	138
New Church (Swedenborgian)	1	..	..	100	40
Seventh-day Adventists	5	..	..	700	254
Students of Truth ..	1	..	..	1,200	500
New and Latter House of Israel	1	..	..	50	13
Salvation Army ..	61	10	30	24,178	15,777
Undenominational ..	15	13	23	9,265	3,503
Hebrews	5	..	..	810	380
Confucians	1	..	..	80	50
Buildings open to more than one denomination (included in the above)	[15]	[22]	[9]	[3,855]	[2,062]
Totals, 1896 ..	1,431	366	190	334,509	209,731
Totals, 1891 ..	1,197	241	161	278,114	177,055

* Includes United Free Methodists and Bible Christians, which bodies amalgamated with the Wesleyan Methodist Church on 13th April, 1896.

The number of buildings, in each provincial district of the colony, used for public worship in 1896 was:—

Provincial Districts.	Churches and Chapels.	School-houses used for Public Worship.	Dwellings or Public Buildings used for Public Worship.	Number of Persons.	
				For whom Accommodation.	Attending Services.
Auckland	329	98	61	78,104	45,270
Taranaki	62	5	16	13,173	7,378
Hawke's Bay	83	20	13	17,526	11,485
Wellington	209	22	26	49,320	31,973
Marlborough	28	1	2	4,809	3,361
Nelson	93	34	11	17,963	10,521
Westland	42	3	2	7,955	5,001
Canterbury	277	61	15	62,884	42,615
Otago	308	122	44	82,775	52,127
Totals, 1896 ..	1,431	366	190	334,509	209,731
Totals, 1891 ..	1,197	241	161	278,114	177,055

Public Libraries, Literary and Scientific Institutions.

Although the number of these institutions only increased from 298 to 304 between the years 1891 and 1896, according to the census returns, it will be found that the membership increased from 14,489 to 17,638, or at the rate of 21·73 per cent. There was also a large increase of books (23·83 per cent.), which numbered 330,770 in 1891, and 409,604, in 1896. In considering these facts it must be borne in mind that the population increased 12·24 per cent. in the quinquennium. The details for all provincial districts are given, which shows that Auckland and Otago had 75 institutes each, and Canterbury 73. In membership Otago stands highest, and Auckland second; but according to number of books Auckland takes first place, Canterbury next, and Otago third.

Provincial Districts.	Number of Institutions.	Number of Members.	Number of Books.
Auckland	75	3,741	106,577
Taranaki	6	378	7,700
Hawke's Bay	17	1,513	22,955
Wellington	21	3,029	49,712
Marlborough	5	234	7,783
Nelson	25	679	27,363
Westland	7	355	6,602
Canterbury	73	3,647	93,981
Otago	75	4,062	86,931
Totals, 1896	304	17,638	409,604
Totals, 1891	298	14,489	330,770
Totals, 1886	303	13,684	292,108
Totals, 1881	225	12,868	198,520
Totals, 1878	187	12,092	173,021

SECTION VI.—LAW AND CRIME.

CIVIL CASES.

SITTINGS of the Supreme Court are held for trial of civil cases at Auckland, Gisborne, New Plymouth, Napier, Wellington, and Wanganui, in the North Island; and at Blenheim, Nelson, Hokitika, Christchurch, Timaru, Oamaru, Dunedin, and Invercargill, in the Middle Island.

The number of writs of summons issued in the Supreme Court in 1897 was 460, against 529 in 1896, 511 in 1895, and 664 in 1894. The number of civil cases tried increased from 153 in 1896 to 157 in 1897. Of these, 11 were tried before common juries, 28 by special jury, and 118 by Judge without jury. The total of amounts for which judgments were recorded in 1897 was £60,817. There were 56 writs of execution issued during the year.

Fifty-three cases were commenced at seventeen District Courts in 1897. Ten of these cases were tried before juries, and 23 before a Judge only, making a total of 33 cases tried. Fourteen cases lapsed or were discontinued, and six remained pending. The total of amounts sued for was £7,742, and judgments were recorded for £1,534. Before the Magistrates' Courts 20,249 cases were tried, against 19,708 in 1896; the aggregate sum sued for being £303,155, and the total for which judgment was given £165,644.

COURT OF APPEAL.

Three Crown (criminal) cases were reserved from the superior Courts and brought before the Court of Appeal in 1897. In two cases the convictions were affirmed, and in one the conviction was quashed. There were appeals from 22 civil cases, of which 7 were allowed and 15 dismissed. Judgments were given on 5 other cases removed to the Court of Appeal.

BANKRUPTCY.

The petitions in bankruptcy during 1897 numbered 419 (including 4 cases in which no statement was filed), of which 387 were made by debtors and 32 by creditors. This number is 7 greater than the number of petitions for the preceding year.

Of the bankruptcies in 1897: in 16 cases the liabilities were under £50; in 107, from £50 to £100; in 139, from £100 to £250; in 80, from £250 to £500; in 41, from £500 to £1,000; in 22, from £1,000 to £2,000; in 7, from £2,000 to £5,000; and in 3, £5,000 and upwards.

The following gives the number of petitions, the total amount of the unsecured assets, the amount of debts proved, and the amount paid in dividends and preferential claims for the years 1887, 1890, 1893, 1896, and 1897 :—

Year.	No. of Petitions in Bankruptcy.	Debtors' Statements of Assets, excluding Amounts secured to Creditors.	Amounts realised by Official Assignees.	Amount of Debts proved.	Amounts paid in Dividends and Preferential Claims.
		£	£	£	£
1887	1,036	311,745	135,633	503,759	109,255
1890	652	262,733	112,951	381,124	122,276
1893	484	111,483	68,843	464,273	37,721
1896	412	115,455	71,712	256,870	37,492
1897	415	73,466	40,942	133,344	45,015

A special article on the present bankruptcy law of New Zealand was printed in the Year-book of 1894. Reference is made in it to a mode of private assignment which has come into such frequent use as to prevent conclusions being drawn from a comparison of the figures above given.

DIVORCE.

Last year the Legislature of New Zealand passed a statute entitled "The Divorce Act, 1898," and the signification of Her Majesty's assent thereto was duly notified by His Excellency the Governor in a Proclamation dated the 1st April, 1899. (*Gazette* No. 32, of 13th April, 1899.)

The new Act places persons of either sex practically on an equality as regards petitions for dissolution of marriage; the same grounds, in substance, for a decree of divorce applying to man or woman.

Besides this important alteration of the law, the grounds for divorce are extended as under :—

1. Adultery, on either side.
2. Wilful desertion continuously during five years or more.
3. Habitual drunkenness on the part of husband, along with failing to support wife; or drunkenness and neglect, with unfitness to discharge household duties on the part of the wife.
4. Conviction, with sentence of imprisonment or penal servitude for seven years or upwards, for attempting to take life of petitioner.

Every decree for dissolution of marriage is in the first instance to be a decree *nisi*, not to be made absolute till after the expiration of such time, being not less than three months from the pronouncing thereof, as the Court shall by order from time to time direct.

The petitioner need not necessarily move to make absolute any decree *nisi* that may be pronounced.

A decree for a judicial separation may be obtained either by the husband or wife on the ground of adultery, or of cruelty, or of desertion without cause for a period of two years.

The petitions in 1897 under "The Divorce and Matrimonial Causes Act, 1867," were 58 in number, 3 fewer than in 1896: 48 were for dissolution of marriage, and 10 for judicial separation; 33 decrees for dissolution of marriage were granted. The proceedings under the Act for the years 1887, 1890, 1893, 1896, and 1897 were as follows:—

Year.	Petitions for		Decrees for	
	Dissolution of Marriage.	Judicial Separation.	Dissolution of Marriage.	Judicial Separation.
1887	26	6	16	1
1890	24	8	21	3
1893	34	9	25	1
1896	55	6	36	2
1897	48	10	33	1

The proportion of petitions and decrees for dissolution of marriage to the number of marriages has hitherto been higher in New Zealand than in England and Wales, but lower than in New South Wales or Victoria. The effect of the operation of the new law in New Zealand will, however, have to be experienced.

As early as 1889 an Act was passed in Victoria to allow of divorces being granted for wilful desertion, habitual drunkenness with cruelty or neglect, imprisonment under certain circumstances of either party, and adultery on the part of the husband. This multiplication of the causes for divorce has largely increased the proportion of decrees in that colony.

An Act of a similar tenor was passed in New South Wales in 1891, and brought into working in August of the following year, under which, in addition to adultery since marriage on the part of the wife, and adultery and cruelty on the part of the husband, petitions for divorce can now be granted in that colony on any of the following grounds:—

Husband *v.* wife: Desertion for not less than three years; habitual drunkenness for a similar period; being imprisoned under a sentence of three years or upwards; attempt to murder or inflict grievous bodily harm, or repeated assaults on him within one year previously.

Wife *v* husband: Adultery, provided that at the time of the institution of the suit the husband is domiciled in New South Wales; desertion for not less than three years; habitual drunkenness for the same period; being imprisoned for three years or upwards, or having within five years undergone various sentences amounting in all to not less than three years; attempt to murder, or assault with intent to inflict grievous bodily harm, or repeated assaults within one year previously.

To entitle either party to seek relief on these grounds, he or she must have been domiciled in the colony at the time of instituting the suit for three years or upwards, and should not have resorted to the colony for the purpose of the suit. When a wife seeks for a decree on the ground of three years' desertion, if she was domiciled in New South Wales when the desertion commenced, she shall not be deemed to have lost her domicile by reason of her husband having thereafter acquired a foreign domicile.

Figures will be found in the Year-Book of 1898 showing operation under the divorce law for the three colonies compared for late years.

CRIMINAL CASES.

Charges before Magistrates.

The number of charges heard before the Magistrates' Courts in 1897 was 20,585. Repeated charges against the same person are counted as distinct. Of the charges in 1897, 636 were against persons of the aboriginal native race, an increase of 175 on the number for the previous year.

If the Maoris be excluded, the number of charges in 1897 is found to have been 19,949, an increase of 1,134 upon the number for 1896; and the proportion per 1,000 of population was 27·36, against 26·35 in 1896.

The figures, both numerical and proportional, covering a period of sixteen years are subjoined:—

CHARGES BEFORE MAGISTRATES

Year.	Number.	Proportion per 1,000 of Population.	Year.	Number.	Proportion per 1,000 of Population
1882	22,108	43·41	1891	17,189	27·29
1885	22,709	39·61	1894	17,353	25·55
1888	18,829	30·82	1897	19,949	27·36

The general results shown in the next table are borne out in a most satisfactory manner by the statistics relating to prisoners in gaol (see *post*), which also show a marked decrease in crime during the above period.

Summary Convictions, and Convictions in Superior Courts.

The summary convictions in 1897 numbered 15,325, including 450 Maoris. 581 persons, 28 of whom were Maoris, were committed for trial at the Supreme and District Courts, an increase of 35 on the number committed in 1896.

"The Justices of the Peace Act, 1882," provides that sundry indictable offences may with the consent of the accused be summarily dealt with by Magistrates. The increasing use of this provision may have affected the number of convictions in the higher Courts shown in the table hereunder.

Including 12 Maoris, the convictions in the superior Courts numbered 315 (persons).

A comparison of the number of persons in New Zealand summarily convicted during the years 1888, 1891, 1894, and 1897 shows a decrease in the proportion of these convictions per 1,000 of the population, not only on the total, but also in regard to offences against the person, against property, and other offences taken separately. Dealing with the convictions in the superior Courts for all offences, the proportion per 1,000 of population is exactly equal for 1897 to that for 1888, and similarly for offences against the person. For offences against property there is a slight rise, and for other offences a fall in the proportion. The figures given exclude the Maoris:—

Years.	Summary Convictions.		Convictions in Superior Courts.	
	Number.	Proportion per 1,000 of Mean Population.	Number.	Proportion per 1,000 of Mean Population
1888—				
Offences against the person	715	1·18	42	0·07
Offences against property ..	1,246	2·06	178	0·29
Other offences	12,298	20·31	35	0·06
Totals	14,259	23·55	255	0·42
1891—				
Offences against the person	751	1·19	31	0·05
Offences against property ..	1,312	2·08	141	0·23
Other offences	10,988	17·45	42	0·07
Totals	13,051	20·72	214	0·35
1894—				
Offences against the person	724	1·07	36	0·05
Offences against property ..	1,284	1·89	199	0·29
Other offences	10,605	15·61	65	0·10
Totals	12,613	18·57	300	0·44
1897—				
Offences against the person	781	1·08	49	0·07
Offences against property ..	1,412	1·96	240	0·33
Other offences	12,682	17·57	14	0·02
Totals	14,875	20·61	303	0·42

Drunkenness.

During the five years, 1893 to 1897 inclusive, the consumption of beer in the colony per inhabitant would seem to have been maintained; indeed the figures for 1897 are very slightly greater than those for 1894. Wine and spirits show a very small decrease in the consumption per head of population. The calculations are made to show the results, including and excluding Maoris.

CONSUMPTION OF BEER, WINE, AND SPIRITS PER HEAD OF POPULATION (INCLUDING AND EXCLUDING MAORIS).

	Including Maoris.			Excluding Maoris.		
	Beer. Gal.	Wine. Gal.	Spirits. Gal.	Beer. Gal.	Wine. Gal.	Spirits. Gal.
1893..	7·255	0·159	0·656	7·716	0·170	0·697
1894..	6·961	0·136	0·611	7·391	0·144	0·648
1895..	6·996	0·127	0·593	7·421	0·135	0·629
1896..	7·453	0·133	0·605	7·873	0·141	0·639
1897..	7·790	0·138	0·628	8·220	0·146	0·663

The actual quantities of beer, wine, and spirits used in the colony were, for the five years:—

	Beer for Consumption. Gals.	Wine for Consumption. Gals.	Spirits for Consumption. Gals.
1893 ..	5,102,983	112,115	461,283
1894 ..	5,019,973	97,934	440,305
1895 ..	5,138,170	93,138	435,431
1896 ..	5,565,040	99,473	451,679
1897 ..	5,931,550	105,060	478,136

A comparison of the convictions for drunkenness shows that excessive drinking was not so prevalent in 1897 as it was seven years previously. The proportions per 1,000 of population were 8·39 convictions in the year 1889 and 9·14 in 1890, diminishing to 6·60 in 1895 and 6·82 in 1896. And among the New-Zealand-born population of European descent there is evidence of less drunkenness than among persons who have come to the colony from abroad. At the census of 1896, out of the total population of New Zealand over 15 years of age, not less than 43·71 per cent. were found to have been born here; while the proportion of the convictions for drunkenness of New-Zealand-born Europeans to the total convictions was in that year less than 15 per cent.

The prison statistics show for several years back the number of distinct prisoners received into gaol after being convicted of drunkenness. The figures for the years 1885–97 are as follow (readmissions of the same person not counted):—

DISTINCT PRISONERS CONVICTED OF DRUNKENNESS RECEIVED INTO GAOL.

Year.	Number.
1885	1,200
1887	1,038
1889	802
1891	694
1893	619
1895	469
1897	486

Here the decrease proceeds rapidly and almost uniformly from year to year. It is true that the option of a fine is generally given to a person convicted of drunkenness, but there is nothing to show that the proportion of fines for this offence has increased of late, so that a fall in the number of distinct persons imprisoned may fairly be accepted as corroborative evidence of growing sobriety among the people.

In New South Wales and Victoria the consumption per head of alcoholic liquors is greater than it is here. The figures for 1896, according to Mr. Coghlan, as given in the "Seven Colonies of Australasia," are:—

	Beer. Gal.	Wine. Gal.	Spirits. Gal.
Victoria	11·43	1·35	0·73
New South Wales	9·14	0·61	0·73

In each of these colonies, as also in Queensland, charges for drunkenness are, in proportion to population, far more numerous than in New Zealand. The order of the colonies in this respect is, to quote Mr. Coghlan again, as under:—

CHARGES OF DRUNKENNESS IN PROPORTION TO POPULATION.

New South Wales	15·1 per 1,000
Victoria	9·3 "
Queensland	13·1 "
New Zealand[*]	7·0 "

"The Inebriates Institutions Act, 1898."

Under this law, the Governor in Council may direct that any building or establishment which is the property of the Crown shall be an institution for inebriates; and he may appoint superintendents, with other officers.

Power is also given to make regulations for the management, supervision, and inspection of these institutions, any of which may be separated into two divisions, with different scales of accommodation, and fees to be paid by patients.

An inebriate may himself make application to a Judge or Magistrate for an order committing him to an institution. Or, if the husband, wife, or any relation or friend of any inebriate applies, the Judge or Magistrate may summon the inebriate to show cause why he should not be committed; when, if necessary, he may be compulsorily dealt with.

There are penalties for improper treatment of patients, and a patient is also liable if misconducting himself. It is also enacted that, during the continuance of an order, an escaped inebriate may be retaken.

Crime amongst Maoris.

The Native population of the colony may be regarded as stationary, and comparisons of the numbers of summary convictions by the higher and lower Courts are given. Compared with the convictions in 1887 and 1888, the figures for the lower Courts are now showing a rising tendency, but the number for 1897 is swelled by 108 persons convicted of trespass, and those relating to the convictions by the superior Courts are small and fluctuating.

SUMMARY CONVICTIONS OF MAORIS.

Year.	Number.	Year.	Number.
1887	279	1895	316
1888	213	1896	332
		1897	450
1891	298		
1892	293		

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[*] In 1897 the proportion was 7·1.

CONVICTIONS OF MAORIS IN SUPERIOR COURTS.

Year.	Convictions.	Number of Persons convicted
1887	11	13
1888	10	10
1891	7	
1892	16	15
1895	17	15
1896	19	19
1897	16	12

Prisoners in Gaol.

The total number of prisoners received in the different gaols of the colony during the year 1897 was 3,616, including persons awaiting trial but not convicted within the year, and counting as distinct persons repeated admissions of the same person, as well as transfers from gaol to gaol of convicts undergoing sentence. In 1896 the number received was 3,392, so that the figures for 1897 show an increase of 224. Of 3,616 admissions for 1897, 46 were for debt, and 72 on account of lunacy; while 340 were Maoris imprisoned for various offences. If the debtors, lunatics, and Maoris be excluded, the number of persons received into gaol is reduced to 3,158, against 3,096 in 1896. In 1881, when the mean population was only 493,482 persons, the corresponding number of admissions was 4,207.

The number of persons in gaol (including Maoris) at the end of the year 1897 was not quite equal to that for 1887, notwithstanding the increase of population :—

PRISONERS IN GAOL (31ST DECEMBER).

Year.	Undergoing Sentence.	Debtors and Lunatics.	On Remand and awaiting Trial.	Total.
1887	633	5	53	691
1897	623	..	51	674

Of the prisoners previously convicted received in 1897, 331 men and 42 women had been convicted once; 183 men and 24 women twice; 837 men and 419 women three or more times : making a total of 1,351 men and 485 women.

Besides the returns from the Prisons Department, a separate card for each admission is furnished for every gaol. Such cards as show convictions are arranged alphabetically, and where several are found referring to the same person, all are thrown out but one; then the number of cards retained equals the actual number of distinct convicted prisoners received in the various gaols during the year. In 1897 this number (excluding Maoris) was 1,884, a decrease of 52 on the number in 1896. These figures do not include children committed to the industrial schools simply on the ground that they are neglected or destitute.

The following table shows the number of distinct persons (exclusive of Maoris) received into gaol after conviction during 1897, classified according to nature of offence, religion, birthplace, and age :—

DISTINCT CONVICTED PRISONERS RECEIVED INTO GAOL, 1897.

[NOTE.—In this and the following tables a prisoner convicted of more than one offence during the year is reckoned once only, under the heading of the principal offence—*e.g.*, a prisoner convicted three times of drunkenness, twice of vagrancy, and once of theft, is counted only once, under the heading "Theft." Debtors and lunatics received into gaol, and children committed to the industrial schools not convicted of any crime, are omitted.]

—	Offences against the Person.				Offences against Property.				Miscellaneous.						Totals.	
	Convicted on Indictment.		Summarily convicted.		Theft and Deceit.		Mischief.		Vagrancy.		Drunkenness.		Other Offences.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Religions—																
Church of England	17	...	54	2	254	19	12	2	97	37	155	42	176	2	765	104
Roman Catholic	6	1	47	3	126	11	12	2	44	36	126	47	92	2	453	102
Presbyterian	8	...	11	1	80	9	5	...	30	8	61	17	56	2	251	37
Wesleyan	4	1	5	1	26	1	1	...	3	3	9	2	9	2	57	10
Others	2	...	10	...	29	...	6	...	8	...	25	2	23	...	103	2
Totals	37	2	127	7	515	40	36	4	182	84	376	110	356	8	1,629	255
Birthplaces—																
England and Wales	14	1	26	2	148	6	11	1	75	17	118	28	122	4	514	59
Scotland	2	...	6	...	41	3	5	...	21	8	59	16	47	...	181	27
Ireland	4	...	25	2	61	15	7	2	29	19	101	42	46	4	273	84
New Zealand	13	...	40	3	187	13	6	...	38	30	38	15	82	...	404	61
Australian Colonies	3	1	10	...	26	1	2	...	7	6	14	6	14	...	76	14
Other British possessions	...	...	1	...	6	1	1	...	...	1	3	...	6	...	17	2
China	...	...	...	...	4	...	...	...	...	...	...	...	3	...	7	...
Other countries	1	...	19	...	42	1	4	1	12	3	43	3	36	...	157	8
Totals	37	2	127	7	515	40	36	4	182	84	376	110	356	8	1,629	255
Ages—																
Under 10 years	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
10 and under 12 years	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
12 and under 15 years	...	...	...	...	3	...	...	...	...	...	...	...	...	...	3	...
15 and under 20 years	3	...	7	...	65	5	3	...	6	10	1	...	20	...	105	15
20 and under 25 years	11	1	26	2	88	2	4	...	17	10	19	4	54	...	219	19
25 and under 30 years	6	1	31	...	78	3	3	...	21	9	32	14	70	1	241	28
30 and under 40 years	6	...	28	...	132	10	13	2	34	28	94	40	77	4	384	84
40 and under 50 years	6	...	23	2	85	8	7	2	41	19	113	26	71	3	346	60
50 and under 60 years	4	...	7	3	40	8	2	...	27	7	66	17	45	...	191	35
60 years and over	1	...	3	...	24	4	4	...	36	1	51	9	19	...	138	14
Totals, 1897	37	2	127	7	515	40	36	4	182	84	376	110	356	8	1,629	255
Totals, 1896	24	2	141	5	515	28	35	3	140	64	405	110	419	45	1,679	257

The number of distinct persons (exclusive of Maoris) imprisoned after conviction, in the past ten years, counting one offence only when the same person was imprisoned more than once, with the proportion per 10,000 prons living, is added:—

Distinct Persons imprisoned after Conviction.

Year.	Prisoners.	Proportion per 10,000 of Population.	Year.	Prisoners.	Proportion per 10,000 of Population.
1888	2,531	41·81	1893	2,111	31·92
1889	2,399	39·00	1894	1,955	28·78
1890	2,397	38·61	1895	1,930	27·87
1891	2,113	33·55	1896	1,936	27·11
1892	2,164	33·69	1897	1,884	25·84

There has been since 1888 a decrease of 26 per cent. in the number of distinct convicted prisoners, and a reduction of 16 per cent. in the proportion to population. In New South Wales the proportion for 1892 was 75 per 10,000 persons.

It must be understood that the actual number of imprisonments was much in excess of the figures given, as many persons were several times imprisoned, either for offences differing in kind or for repetitions of the same offence. Thus, persons returned as imprisoned for larceny underwent other imprisonments for drunkenness, &c. Some returned as convicted of drunkenness were several times in gaol during the year for the same offence, or for another, such as assault, riotous or indecent conduct, &c. Often there were several charges preferred against the same person at the one time, of which the most serious followed by conviction has been selected.

The proportions in every 100 distinct convicted prisoners belonging to each of the four principal religious denominations, with proportions of prisoners at each age-period, and particulars as to birthplaces, will be found in the statistical volume for 1897, on pages 447 and 448.

Cost of Prisoners.

The prisoners in gaols during the year 1897 were maintained at a net cost to the State of £33 9s. 8d. per head, against £31 3s. 6d. in 1896.

Crime amongst the New-Zealand-born.

While the New-Zealand-born formed at the last census 63 per cent. of the whole population of the colony, they contributed in 1896 not more than 25 per cent. of the prisoners received in gaol. Of the New-Zealand-born population, however, a large number are under 15 years of age, a period of life at which there are very few prisoners; and, therefore, another comparison is necessary. It is found that the New-Zealand-born over 15 years formed 44 per cent. of the total population; but, as before stated, New-Zealanders constituted less than 25 per cent. of the total number received in gaols.

The total number of New-Zealand-born distinct prisoners (excluding Maoris) received for the year 1897—465 persons—is found to be 149 in excess of the number for 1890. Of those received in 1897, 98 were under twenty years of age. As before stated, the plan adopted in preparing the foregoing tables is to count each prisoner only once, and to exclude all who are not convicted prisoners, besides dealing only with the number received during the year, instead of with the full number in gaol, which would, of course, include those brought forward from the previous year. The comparative results for a series of years given by this method are held to be more valuable than those brought out by one which includes prisoners merely awaiting trial, and continual repetitions of the same individuals.

First Offenders' Probation Act.

Ninety-one persons were placed on probation in the year 1897, against 72 in 1896. Of these, 27 were discharged after satisfactorily carrying out the conditions of their licenses, 6 were rearrested, and 58 remained under the supervision of Probation Officers.

Of the 914 persons placed on probation since the introduction of the Act in October, 1886, no less than 763 had, by the end of the year 1897, been discharged after satisfactorily carrying out the conditions of their licenses, 58 were rearrested and sentenced to various terms of imprisonment, 1 committed suicide, 2 died, 21 absconded, and 69 remained fulfilling the conditions of their terms of probation.

The Inspector of Prisons remarks: "This information must be admitted by the most sceptical opponents of the Act as highly satisfactory, and reflects credit on Probation Officers for the judicious selections made in their recommendations, and should be an encouragement for a far more extensive resort to the use of the Act than hitherto. It may be argued that because 21 probationers have absconded, out of a total of 914, there is a considerable danger to the community; but this melts away, and is infinitesimal, when the numbers who have been saved from the infliction of the cruel 'tar brush' of the gaol stigma, and probably a career of crime, is taken into account."

Inquests.

The number of bodies on which inquests were held in 1897 was 897, including 10 Maoris. In 692 cases the bodies were of males, and in 205 of females. The verdicts may be classified as under:—

Nature of Verdict.	Inquests on Persons.		
	Males.	Females.	Total.
Accident	310	64	374
Disease and natural causes ..	314	119	433
Intemperance	11	1	12
Homicide	5	3	8
Suicide	42	11	53
Execution	2	..	2
Not classed	8	7	15
	692	205	897

Of the accidental deaths, drowning is still the most fatal form. The verdicts show that 163 bodies were found drowned, giving a percentage of 43·58 on the accidental deaths from all causes.

The inquests on suicidal deaths in 1897 show a decrease on the number for five previous years:—

Year.	Inquests on Suicides.			Year.	Inquests on Suicides.		
	Males.	Females.	Total.		Males.	Females.	Total.
1892 ..	50	8	58	1895 ..	66	10	76
1893 ..	49	15	64	1896 ..	58	12	70
1894 ..	58	17	75	1897 ..	42	11	53

Fire Inquests.

The inquests on fires held during 1897 were 49. In ten cases the verdict was incendiarism; in eight, accident; in thirty, no evidence was forthcoming; and in one case insufficient evidence.

SECTION VII.—GOVERNMENT VALUATION OF LAND AND ITS IMPROVEMENTS.

RESULTS OF THE GENERAL VALUATION MADE FOR MARCH, 1898.

IN the year 1896 an Act intituled the Government Valuation of Land Act was passed, providing for the appointment of a Valuer-General, and for the periodical valuation of all land in the colony. The Valuer-General is the Commissioner of Taxes for the time being. The valuations on the general roll are used for the assessment of land-tax, stamp duties, and duties on deceased persons' estates; for local rates, except in places where these are levied on the annual value; also, for the purposes of advances and investments on mortgage of land by the Post Office, Government Insurance Department, Public Trust Office, Government Advances to Settlers Office, and the Commissioners of the Public Debts Sinking Funds. The valuation is also used for the guidance of the Government in transactions under "The Land for Settlements Act, 1894," and "The Public Works Act, 1894."

The term "land" means and includes all lands, tenements, buildings, and hereditaments, whether corporeal or incorporeal, and also includes all chattel interests in land.

A certified copy of any entry in the general valuation-roll is supplied by the department on payment of the prescribed fee.

The general valuation-roll continues in force until a fresh roll is made, but whilst in force it may be altered and amended from time to time. The rolls for rating purposes are supplied to local bodies by the Valuer-General on the request of the local authority. The aim is to insure a standard valuation for taxation, local rating, and loan purposes.

Owners and occupiers dissatisfied with their valuations have the right of objection, the procedure being that laid down by "The Rating Act, 1894," and the regulations under "The Government Valuation of Land Act, 1896."

The cost of making the valuation is divided proportionally between the departments mostly using it and the local authorities, while separate fees are provided for by regulation for supplying individual valuations to persons requiring them.

The general valuation-roll shows the capital value of the property, of improvements, and the unimproved value of the land.

The surface-value only of gold mines is included, and the value of the Government railways has been excluded.

All land is included, whether occupied or unoccupied, whether owned by private individuals, by the Crown, by Natives, by local authorities, Education Boards, School Commissioners, Churches, corporations, companies, or societies of all kinds, and whether subject to or exempt from taxation or rates.

The work of valuing all the lands in the colony is very great, and the Valuer-General points out that some idea of its magnitude may be gathered from the fact that 231,965 separate valuations were needed, of which 119,258 were in the North Island, and 112,707 in the South.

The result of the valuation of land as in March, 1898, is given in the report of the Valuer-General, presented to both Houses of Parliament. Comparative figures are here given for 1888 and 1898 of the results of the assessments made in those years, and the increase, stating separately the unimproved value and the value of improvements; and it is noteworthy that, whereas between 1888 and 1898 the unimproved value of land has risen only by 11·79 per cent., the value of improvements is greater by no less than 52·05 per cent.

COMPARISON OF CAPITAL VALUES, 1888 AND 1898.

	1888.	1898.	Increase, 1888 to 1898.	
	£	£	Amount. £	Rate per cent.
Unimproved value ..	75,497,379	84,401,244	8,903,865	11·79
Value of improvements	35,640,335	54,190,103	18,549,768	52·05
Total ..	111,137,714	138,591,347	27,453,633	24·70

In the figures for the North and South Islands the relative degree of increase is exhibited, and the rapid rate of progress in the North Island shows in strong contrast to that of the other Island. There has been great spread of settlement in the Wellington and Taranaki Districts.

CAPITAL VALUES

	1888. £	1898. £	Increase. £
North Island ..	49,607,873	71,680,952	22,073,079
South Island ..	61,529,841	66,910,395	5,380,554
Totals ..	111,137,714	138,591,347	27,453,633

The increase for the North Island of £22,073,079 represents an advance of 44·50 per cent. on the value in 1888, and that of £5,380,554, for the South Island, 8·74 per cent. The increase for the whole colony, as shown previously, was £27,453,633, or 24·70 per cent.

The statement on the next page gives the capital value of land and improvements in counties and boroughs as at the assessments of 1891 and 1898.

CAPITAL VALUE OF LAND IN COUNTIES AND BOROUGHS.

	1891.	1898.
	£	£
Counties	85,818,167	95,710,266
Boroughs	36,406,862	42,881,081
Totals	122,225,029	138,591,347

The increase in the capital value of land, with improvements, in counties for the seven years is £9,892,099, or 11·53 per cent., while that for boroughs is £6,474,219, or 17·78 per cent.; but the value of property in boroughs has been added to since 1891 by the constitution of ten new boroughs, and that of the counties correspondingly reduced, so that the actual rate of increase in the value of country lands is higher than indicated by the above figures, and in urban lands considerably less.

The results of the assessment of 1898 are given in detail in the tables which follow. For still fuller information, including particulars of road and town districts, besides ridings of counties, reference must be made to the statistical volume of 1898, which also gives comparisons in respect of counties and boroughs separately.

COUNTIES, 1898.

County.	Capital Value.	Unimproved Value.	Value of Improvements.
	£	£	£
Mongonui	213,214	148,051	65,163
Whangaroa	77,107	48,622	28,485
Bay of Islands	354,354	223,210	131,144
Hokianga	411,808	341,493	70,315
Whangarei	554,905	328,973	225,932
Hobson	374,443	241,653	132,790
Otamatea	303,113	186,903	116,210
Rodney	305,677	150,675	155,002
Waitemata	644,552	363,628	280,924
Eden	2,249,575	1,153,134	1,096,441
Manukau	1,513,178	800,861	712,317
Islands (Great and Little Barrier, &c., Waiheke) ..	149,011	79,634	69,377
Waikato	624,102	284,829	339,273
Raglan	437,962	300,417	137,545
Waipa	493,786	256,782	237,004
Kawhia	383,131	334,678	48,453
Coromandel	380,232	256,725	123,507
Thames	364,135	241,087	123,048
Ohinemuri	512,330	298,665	213,665
Tauranga	335,864	231,206	104,658
Piako	713,963	371,973	341,990
Rotorua	468,015	387,996	80,019
Whakatane	733,027	603,103	129,924
East Taupo	252,681	241,891	10,790
West Taupo	237,482	214,323	23,159
Islands (Mayor and Motiti) ..	5,780	3,696	2,084
Waiapu	732,232	402,194	330,038
Cook	2,569,400	1,560,073	1,009,327
Wairoa	1,040,618	759,735	280,883
Hawke's Bay	3,541,602	2,397,060	1,144,542
Waipawa	2,594,187	1,470,634	1,123,553

COUNTIES—*continued*.

County.	Capital Value.	Unimproved Value.	Value of Improvements.
	£	£	£
Patangata	1,837,598	1,131,077	706,521
Clifton	624,295	507,856	116,439
Taranaki	1,534,634	893,622	641,012
Stratford	992,931	574,883	418,048
Hawera	1,888,624	940,906	947,718
Patea	1,081,957	700,322	381,635
Waitotara	914,206	620,967	293,239
Wanganui	1,704,226	1,237,185	467,041
Rangitikei	1,960,707	1,146,725	813,982
Kiwitea	756,059	396,791	359,268
Pohangina	397,194	238,465	158,729
Manawatu	950,957	593,758	357,199
Oroua	1,908,338	1,080,844	827,494
Horowhenua	1,147,850	678,049	469,801
Islands (Kapiti and Mana)	10,484	9,378	1,106
Pahiatua	902,481	481,734	420,747
Wairarapa North	2,631,730	1,416,606	1,215,124
Wairarapa South	2,348,804	1,401,296	947,508
Hutt	1,272,436	612,129	660,307
Collingwood	360,119	192,224	167,895
Waimea	1,338,280	806,879	531,401
Sounds	276,735	169,387	107,348
Marlborough	1,814,285	1,304,020	510,265
Buller	673,391	474,842	198,549
Inangahua	946,174	595,295	350,879
Grey	817,957	579,498	238,459
Westland	792,307	668,688	123,619
Kaikoura	358,045	277,672	90,373
Cheviot	573,324	486,795	86,529
Amuri	688,106	508,777	179,329
Ashley	3,853,094	3,050,303	802,791
Selwyn	7,312,308	5,194,125	2,118,183
Akaroa	1,190,101	881,158	308,943
Ashburton	4,006,292	3,061,970	944,322
Geraldine	1,839,474	1,397,601	441,873
Levels	1,493,135	1,098,928	394,207
Mackenzie	799,755	646,091	153,664
Waimate	2,403,822	1,906,579	497,243
Waitaki	2,540,380	2,006,026	534,354
Maniototo	553,766	374,584	179,182
Waihemo	409,062	274,698	134,364
Waikouaiti	587,814	320,442	267,372
Peninsula	417,251	243,754	173,497
Taieri	1,282,724	925,259	357,465
Tuapeka	833,968	539,371	294,597
Bruce	944,163	639,669	304,494
Clutha	1,175,618	814,022	361,596
Vincent	437,987	282,458	155,529
Lake	318,564	234,328	84,236
Fiord	143,584	137,209	6,375
Wallace	1,656,864	1,177,764	479,100
Southland	4,251,275	2,967,350	1,283,925
Stewart Island	159,690	134,378	25,312
Islands (Antipodes, Auckland, and Campbell)	13,875	13,875	..
Totals	95,710,266	63,732,516	31,977,750

BOROUGHS, 1898.

Borough.	Capital Value.	Unimproved Value.	Value of Improvements.
	£	£	£
Whangarei	90,000	32,357	57,643
Birkenhead	94,185	46,611	47,574
Devonport	471,867	199,325	272,542
Auckland	5,076,695	2,980,860	2,695,835
Parnell	399,480	185,278	214,202
Newmarket	175,657	82,374	93,283
Newton	262,946	144,553	118,393
Onehunga	267,123	130,359	136,764
Hamilton	118,267	50,410	67,857
Cambridge	79,519	26,268	53,251
Thames	294,695	114,703	179,992
Tauranga	87,301	29,379	57,922
Te Aroha	56,925	25,520	31,405
Gisborne	305,763	132,139	173,624
Napier	1,263,227	585,854	677,373
Hastings	497,862	279,997	217,865
Dannevirke	147,339	78,605	68,734
Woodville	98,474	44,081	54,393
New Plymouth	572,216	325,391	246,825
Hawera	220,115	98,863	121,252
Patea	63,626	22,667	40,959
Wanganui	813,205	461,743	351,462
Marton	112,075	42,406	69,669
Feilding	233,367	104,788	128,579
Palmerston North	631,796	309,019	322,777
Foxton	100,051	42,412	57,639
Onslow	202,971	107,286	95,685
Karori	161,936	110,053	51,883
Wellington	8,052,512	4,814,677	3,237,835
Melrose	314,002	205,224	108,778
Pahiatua	112,239	50,462	61,777
Masterton	472,291	207,845	264,446
Carterton	111,106	46,735	64,371
Greytown	130,036	48,456	81,580
Lower Hutt	269,821	166,969	102,852
Petone	283,285	140,593	142,692
Richmond	85,380	45,153	40,227
Nelson	833,562	342,029	491,533
Picton	74,833	27,271	47,562
Blenheim	334,990	127,635	207,355
Westport	189,916	76,756	113,160
Greymouth	335,889	87,144	248,745
Brunner	69,661	11,529	58,132
Kumara	36,721	5,461	31,260
Hokitika	150,091	55,580	94,511
Ross	29,442	8,871	20,571
Rangiora	175,292	73,011	102,281
Kaiapoi	154,281	48,200	106,081
St. Albans	611,154	271,805	339,349
Christchurch	3,364,921	1,605,137	1,759,784
Sydenham	770,059	284,718	485,341
Linwood	445,210	169,582	275,628
Woolston	193,425	94,798	98,627
New Brighton	94,719	45,997	48,722
Sumner	114,143	63,117	51,026
Lyttelton	841,719	238,274	603,445
Akaroa	50,968	17,705	33,263

BOROUGHS—*continued.*

Borough.	Capital Value.	Unimproved Value.	Value of Improvements.
	£	£	£
Ashburton	244,027	94,217	149,810
Timaru	539,659	188,212	351,447
Waimate	93,699	27,297	66,402
Oamaru	437,089	156,348	280,741
Hampden	15,721	6,029	9,692
Naseby	30,075	3,975	26,100
Palmerston	43,747	10,729	33,018
Hawksbury	47,354	20,436	26,918
Port Chalmers	220,291	59,828	160,463
West Harbour	133,269	61,839	71,430
North-East Valley	256,458	104,230	152,228
Maori Hill	173,027	73,970	99,057
Roslyn	481,554	218,093	263,461
Mornington	301,107	109,150	191,957
Dunedin	4,339,744	2,071,548	2,268,196
Caversham	466,845	186,911	279,934
South Dunedin	296,619	91,964	204,655
St. Kilda	130,573	72,186	58,387
Green Island	39,154	12,229	26,925
Mosgiel	119,466	46,875	72,591
Roxburgh	26,836	3,281	23,555
Lawrence	89,245	22,125	67,120
Tapanui	16,463	2,514	13,949
Milton	109,273	28,691	80,582
Balclutha	70,287	24,257	46,030
Kaitangata	59,958	27,933	32,025
Arrowtown	26,547	4,722	21,825
Queenstown	66,261	12,227	54,034
Cromwell	34,818	10,782	24,036
Alexandra	31,089	9,287	21,802
Gore	172,932	64,239	108,693
Mataura	83,481	28,624	54,857
Winton	29,331	10,739	18,592
Gladstone	34,057	15,991	18,066
Avenal	23,488	8,401	15,087
North Invercargill	40,990	17,221	23,769
East Invercargill	52,487	17,380	35,107
Invercargill	982,482	430,704	551,778
South Invercargill	97,249	37,919	59,330
Riverton	58,566	15,161	43,405
Campbelltown	165,412	86,429	78,983
Total of boroughs	42,881,081	20,668,728	22,212,353

SECTION VIII.—LOCAL GOVERNING BODIES.

COUNTIES, BOROUGHS, ETC.

FOR purposes of local government New Zealand is divided into counties and boroughs. Although the boroughs, of which there were 97 in March, 1898, lie geographically within the counties, yet by the law they are not considered as part of them. On the 31st March, 1898, the counties numbered 81. The number is increased from time to time as need is found for further division, and in November, 1898, two new counties, Akitio and Eketahuna, were constituted, being cut out of Wairarapa North County. In the year 1878 there were only 63 counties. Interior to the counties are the road and town districts, but much of the country is outlying, many road districts having been merged, especially on goldfields territory. There were, however, 235 road districts (4 without Boards) in existence in March, 1898, and 39 town districts. One of these latter is the special Town District of Rotorua, constituted under "The Thermal-Springs Districts Act, 1881." Besides the above there were 30 river protective districts (excluding Inch Clutha, in Bruce County, which is also a road district), 1 drainage district (Christchurch), 2 water-supply districts, and 13 land drainage districts under the Land Drainage Act of 1893. The Harbour Boards numbered 26.

These bodies levied rates in the financial year 1897–98, to the amount of £644,552, of which £439,418 consisted of general rates, and £205,134 special and separate rates. The sum of £76,960 was raised by licenses, and £18,406 by other taxes, making £739,918 altogether, which sum is equivalent to £1 0s. 5d. per head of the mean European population. In the year 1896–97 the local taxation was 19s. 6d. per head, or 11d. less than in 1897–98.

It will be seen from the following table that since 1881 revenue derived from rates has considerably more than doubled, having increased from £249,087 in 1880–81 to £644,552 in 1897–98. Revenue from Government and other sources has, on the other hand, decreased in the same period—eighteen years. Receipts which cannot be classed as "revenue" were £889,705 in 1880–81 against only £304,645 in 1897–98; but these figures vary from year to year according to circumstances, such as large operations by way of construction of works, for which money has to be specially raised.

The indebtedness of local governing bodies on account of outstanding loans has increased by nearly 125 per cent., from £3,039,807 to £6,834,361, exclusive of moneys borrowed from Government under "The Roads and Bridges Construction Act, 1882," and "The Government Loans to Local Bodies Act, 1886," which represented a further indebtedness of £743,242 at the end of March, 1898.

The receipts (distinguishing revenue from other sources of income) and expenditure of the various local bodies, with the amount of rates collected, and the amount of indebtedness on account of loans for each of the past eighteen years, are shown in the following table:—

LOCAL GOVERNING BODIES.—RATES, RECEIPTS, EXPENDITURE, AND LOANS, 1881 TO 1898.*

Year.	Receipts of Local Bodies.				Expenditure of Local Bodies.†	Outstanding Loans of Local Bodies (excluding Government Loans, for which see the following Columns).	Government Loans to Local Bodies.	
	Revenue.		Receipts not Revenue.	Total Receipts.			Under "The Roads and Bridges Construction Act, 1882."	Under "The Government Loans to Local Bodies Act, 1886" (including Debentures under the Roads and Bridges Construction Act converted).
	From Rates.	From Government and other Sources.						
	£	£	£	£	£	£	£	£
Year ended 31st March, 1881	249,087	814,142	889,705	1,952,934	1,871,752	3,039,807	..	..
" " 1882	297,328	694,652	419,608	1,411,588	1,637,337	3,277,584	..	..
" " 1883	327,129	600,450	311,466	1,239,045	1,397,863	3,540,046	..	..
" " 1884	398,659	744,527	331,994	1,475,180	1,499,117	3,962,330	77,439	..
" " 1885	401,393	841,895	430,561	1,673,849	1,653,706	4,313,223	123,086‡	..
" " 1886	410,639	882,618	514,728	1,807,985	1,644,706	4,943,270	134,534	..
" " 1887	434,237	790,063	992,633	2,216,933	1,885,001	5,620,747	113,072	..
" " 1888	433,832	795,067	511,594	1,740,493	1,819,787	5,812,803	18,635	191,687
" " 1889	445,929	676,428	316,139	1,438,496	1,560,605	5,892,050	10,495	273,289
" " 1890	460,303	707,725	206,688	1,374,716	1,476,540	5,978,059	9,676	319,603§
" " 1891	463,581	662,765	236,902	1,363,248	1,381,320	6,042,693	4,317	367,715
" " 1892	488,824	693,296	214,124	1,396,244	1,400,467	6,081,934	4,245	449,532
" " 1893	508,157	709,676	340,538	1,558,371	1,482,548	6,203,869	3,465	525,173
" " 1894	551,412	681,831	623,038	1,856,281	1,589,124	6,614,824	2,685	547,679
" " 1895	581,868	683,857	328,798	1,594,523	1,584,518	6,685,510	2,015	621,903
" " 1896	592,903	738,146	269,145	1,600,194	1,627,079	6,737,578	1,442	667,451
" " 1897	598,526	765,047	246,919	1,610,492	1,636,716	6,793,398	1,077	709,282
" " 1898	644,552	790,602	304,645	1,739,799	1,733,016	6,834,361	712	742,530

* The figures for the Christchurch Drainage Board and the Harbour Boards included in this table are for the calendar years ended three months previous to the financial years. † Not including balances, contractors' deposits returned, amounts paid to sinking funds and for redemption of debentures. ‡ On the 30th June. § In February.

The receipts (distinguishing revenue from other sources of income) and expenditure of the various local bodies, with the amount of rates collected, and the amount of indebtedness on account of loans for each of the past eighteen years, are shown in the following table:—

LOCAL GOVERNING BODIES.—RATES, RECEIPTS, EXPENDITURE, AND LOANS, 1881 TO 1898.*

Year.	Receipts of Local Bodies.				Expenditure of Local Bodies.†	Outstanding Loans of Local Bodies (excluding Government Loans, for which see the following Columns).	Government Loans to Local Bodies.	
	Revenue.		Receipts not Revenue.	Total Receipts.			Under "The Roads and Bridges Construction Act, 1882."	Under "The Government Loans to Local Bodies Act, 1886" (including Debentures under the Roads and Bridges Construction Act converted).
	From Rates.	From Government and other Sources.						
	£	£	£	£	£	£	£	£
Year ended 31st March, 1881	249,087	814,142	889,705	1,952,934	1,871,752	3,039,807	..	..
" " 1882	297,328	694,652	419,608	1,411,588	1,637,337	3,277,584	..	..
" " 1883	327,129	600,450	311,466	1,239,045	1,397,863	3,540,046	..	..
" " 1884	398,659	744,527	331,994	1,475,180	1,499,117	3,962,330	77,439	..
" " 1885	401,393	841,895	430,561	1,673,849	1,653,706	4,313,223	123,086‡	..
" " 1886	410,639	882,618	514,728	1,807,985	1,644,706	4,943,270	134,534	..
" " 1887	434,237	790,063	992,633	2,216,933	1,885,001	5,620,747	113,072	..
" " 1888	433,832	795,067	511,594	1,740,493	1,819,787	5,812,803	18,635	191,687
" " 1889	445,929	676,428	316,139	1,438,496	1,560,605	5,892,050	10,495	273,289
" " 1890	460,303	707,725	206,688	1,374,716	1,476,540	5,978,059	9,676	319,603§
" " 1891	463,581	662,765	236,902	1,363,248	1,381,320	6,042,693	4,317	367,715
" " 1892	488,824	693,296	214,124	1,396,244	1,400,467	6,081,934	4,245	449,532
" " 1893	508,157	709,676	340,538	1,558,371	1,482,548	6,203,869	3,465	525,173
" " 1894	551,412	681,831	623,038	1,856,281	1,589,124	6,614,824	2,685	547,679
" " 1895	581,868	683,857	328,798	1,594,523	1,584,518	6,685,510	2,015	621,903
" " 1896	592,903	738,146	269,145	1,600,194	1,627,079	6,737,578	1,442	667,451
" " 1897	598,526	765,047	246,919	1,610,492	1,636,716	6,793,398	1,077	709,282
" " 1898	644,552	790,602	304,645	1,739,799	1,733,016	6,834,361	712	742,530

for the Christchurch Drainage Board and the Harbour Boards included in this table are for the calendar years ended three
the financial years. †Not including balances, contractors' deposits returned, amounts paid to sinking funds and for
tures. ‡On the 30th June. §In February.

TAXATION BY LOCAL BODIES.

Local Bodies.	Rates.		Licenses.	Other Taxes.	Total.
	General.	Special and Separate.			
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Counties* ...	160,699 5 3	31,258 19 6	19,274 0 0	11,064 6 3	222,296 11 0
Boroughs* ...	128,212 5 11	157,699 15 4	51,483 2 6	5,486 6 3	342,881 10 0
Town Boards* ...	3,682 8 10	229 17 1	4,295 17 9	275 6 8	8,483 10 4
Road Boards* ...	84,587 5 3	12,224 13 9	1,907 8 0	1,579 16 9	100,299 3 9
River Boards* ...	5,830 6 2	1,556 1 4	...	...	7,386 7 6
Land-drainage Boards* ...	1,434 9 9	1,038 15 11	...	...	2,473 5 8
Christchurch Drainage Board†	17,025 0 8	...	...	...	17,025 0 8
Waimakariri-Ashley Water-supply Board*	...	1,125 11 0	...	...	1,125 11 0
Harbour Boards†	37,947 8 4	...	...	...	37,947 8 4‡
Totals ...	439,418 10 2	205,133 13 11	76,960 8 3	18,405 15 11	739,918 8 3§

* For year ended 31st March, 1898. † For year ended 31st December, 1897.

‡ Wharfage dues, charges, fees, tolls, rents, &c., amounting to £288,778 13s. 4d., have not been classed as taxation. § Equal to £1 0s. 5d. per head of the mean European population of the colony for the financial year 1897–98.

RECEIPTS AND EXPENDITURE, 1897–98.

A summary of all the transactions for the year 1897–98 is given on pages 189, 190. The total revenue of the local bodies for the financial year was £1,435,154, and they further received a sum of £304,645 which could not properly be termed "revenue," making altogether a grand total of receipts amounting to £1,739,799. The rates formed 45 per cent. of the revenue proper. Licenses, rents, and other sources yielded 42 per cent., and 13 per cent. was granted by the General Government.

While the revenue proper of the counties amounted to £355,923, of which these bodies raised £191,958 by way of rates, the Road Boards' revenue was only £152,287, out of which £96,812 represented the result of their rating. The boroughs had the far larger revenue of £503,288, including £285,912 of rates, and their receipts under the heading of licenses, rents, and other sources amounted to the considerable sum of £203,877. In the matter of receipts from Government, of which a table is printed on the next page, the counties received the bulk of the money.

The expenditure of the local bodies amounted to £1,733,016. In the counties the cost of management, including salaries, travelling-expenses, rent, printing and advertising, collection of rates or tolls, legal expenses, and sundries, was £42,189. The Borough Councils expended in the same way £52,226, and the Road Boards £15,946. The percentages borne by the cost of management to the total receipts and total expenditure were,—

Cost of Management per Cent. of	Total Receipts.	Total Expenditure.
Counties	8·6	8·5
Boroughs	8·9	9·0
Road Boards	9·3	8·9

The financial operations of the County Councils for the year under review were much larger than those of the Road Boards, and the amount raised by rates more than double.

The details of amounts received, representing Government support to the various bodies, are stated in the following table :—

LOCAL GOVERNING BODIES.—RECEIPTS FROM GOVERNMENT, 1897-98.

—	Counties.	Boroughs.	Town Boards.	Road Boards.	River Boards (excluding Inch-Clutha, also Road Board).	Land Drainage Boards.	Waimakariri Water-supply Board.	Harbour Boards.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Rates on Crown and Native lands ...	240 13 1	59 3 1	...	111 6 6	...	...	...	...	411 2 8
One-third receipts from land sold on deferred payment and from perpetual lease	25,780 8 4	...	45 11 6	11,915 2 0	...	...	...	...	37,741 1 10
One-fourth of rents from small grazing-runs	2,265 13 6	...	...	133 19 8	...	...	...	...	2,399 13 2
Goldfields revenue and gold duty ...	55,156 4 1	1,119 11 5	5 9 8	300 17 9	...	...	...	...	56,582 2 11
Subsidies under the Local Bodies' Finance and Powers Act	36,753 2 4	11,695 19 2	719 4 3	16,763 2 0	...	...	...	...	65,931 7 9
Fees and fines under the Financial Arrangements Act	620 9 9	370 1 3	5 14 9	5 10 3	...	...	...	...	1,001 16 0
Other receipts	4,908 16 8	253 16 3	229 16 7	7,440 9 3	...	200 0 0	...	5,065 18 9	18,098 17 6
Total Revenue Account	125,725 7 9	13,498 11 2	1,005 16 9	36,670 7 5	...	200 0 0	...	5,065 18 9	182,166 1 10
Loans under Government Loans to Local Bodies Act	38,987 0 0	4,991 2 0	369 14 9	16,280 18 6	2,000 0 0	8,087 0 0	...	...	70,715 15 3
Grants for special works, &c.	68,637 5 7	2,393 16 7	...	1,452 2 0	...	...	1,100 0 0	...	73,583 4 2
Total receipts from Government	233,349 13 4	20,883 9 9	1,375 11 6	54,403 7 11	2,000 0 0	8,287 0 0	1,100 0 0	5,065 18 9	326,465 1 3

LOCAL GOVERNING BODIES.—RECEIPTS, EXPENDITURE, AND LOANS, 1897-98.

—	Financial Year ended 31st March, 1898.							
	Counties.	Boroughs.	Town Boards	Road Boards.	River Boards (excluding Inch-Clutha, also Road Board).	Land Drainage Boards.	Waimakariri Water-supply Board.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Receipts:—								
Revenue from—								
Rates	191,958 4 9	285,912 1 3	3,912 5 11	96,811 19 0	7,386 7 6	2,473 5 8	1,125 11 0	589,579 15 1
Licenses, rents, and other sources	38,238 17 8	203,877 5 8	7,686 19 4	11,709 9 10	4,908 8 9	89 17 7	224 17 2	266,735 16 0
Government*	125,725 7 9	13,498 11 2	1,005 16 9	36,670 7 5	...	200 0 0	...	177,100 3 1
County	...	...	318 10 2	7,095 8 3	...	...	...	7,413 18 5
Total revenue	355,922 10 2	503,287 18 1	12,923 12 2	152,287 4 6	12,294 16 3	2,763 3 3	1,350 8 2	1,040,829 12 7
Receipts not revenue ...	134,922 12 1	81,252 11 5	723 5 3	19,638 15 3	2,274 1 8	8,453 10 6	1,212 5 2	248,477 1 4
Total receipts	490,845 2 3	584,540 9 6	13,646 17 5	171,925 19 9	14,568 17 11	11,216 13 9	2,562 13 4	1,239,306 13 11
Expenditure:—								
Public works	362,321 7 2	217,685 2 3	7,797 4 6	125,290 18 10	6,810 15 1	8,942 9 9	4,216 11 0	733,064 8 7
Charitable aid and hospitals	36,484 1 11	27,943 8 2	298 19 6	8,844 16 5	...	...	...	73,571 6 0
Management	42,188 17 4	52,225 18 5	2,358 17 7	15,945 11 1	1,102 8 7	221 6 11	388 16 9	114,431 16 8
Other expenditure	57,027 8 4	283,256 15 1	2,836 0 4	28,346 10 3	6,610 17 10	986 9 11	819 5 9	379,883 7 6
Total expenditure ...	498,021 14 9	581,111 3 11	13,291 1 11	178,427 16 7	14,524 1 6	10,150 6 7	5,424 13 6	1,300,950 18 9
Liabilities (including loans) ...	684,118 1 11	3,156,178 9 10	6,909 5 2	345,623 19 7	58,012 6 9	24,298 8 2	18,716 15 8	4,293,857 7 1
Loans†	11,710 0 0	2,834,306 0 0	620 0 0	6,400 0 0	39,745 0 0	...	18,200 0 0	2,910,981 0 0‡

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* For amounts under various heads see preceding table; also for specification of loans under Government Loans to Local Bodies Act, and special grants, which are here included with "Receipts not revenue." † For rates of interest see page 193. ‡ Not including loans, amounting to £743,242 repayable by instalments under "The Roads and Bridges Construction Act, 1882," and "The Government Loans to Local Bodies Act, 1886."

☞ NOTE.—The return of receipts and expenditure in this summary represents the *net* receipts and expenditure of the year, exclusive of credit and debit balances, bank overdrafts, deposits, amounts paid to sinking funds, and for redemption of debentures.

LOCAL GOVERNING BODIES.—RECEIPTS, EXPENDITURE, AND LOANS—*continued.*

—	Financial Year ended 31st December, 1897.		Totals—all Local Bodies
	Drainage Board.	Harbour Boards.	
Receipts:—			
Revenue from—	£ s. d.	£ s. d.	£ s. d.
Rates	17,025 0 8	37,947 8 4	644,552 4 1
Licenses, rents, and other sources ...	946 16 5	333,339 13 11	601,022 6 4
Government*	...	5,065 18 9	182,166 1 10
County	...	...	7,413 18 5
Total revenue	17,971 17 1	376,353 1 0	1,435,154 10 8
Receipts not revenue	...	56,167 13 2	304,644 14 6
Total receipts	17,971 17 1	432,520 14 2	1,739,799 15 2
Expenditure:—			
Public works	3,469 7 8	120,063 0 6	856,596 16 9
Charitable aid and hospitals... ...	...	...	73,571 6 0
Management	1,016 11 8	12,152 4 0	127,600 12 4
Other expenditure	15,309 18 0	280,053 9 6	675,246 15 0
Total expenditure	19,795 17 4	412,268 14 0	1,733,015 10 1
Liabilities (including loans)	205,674 15 3	3,828,832 0 0	8,328,364 2 4
Loans†	200,000 0 0	3,723,380 0 0	‡6,834,361 0 0

* † ‡ See notes to table on previous page.

LOANS OF LOCAL BODIES.

The outstanding loans of local governing bodies form the subject-matter dealt with in the two next tables. From them it will be seen that the total amount owing was, on the 31st March, 1898, £6,834,361. But against this accrued sinking funds to the value of £598,564 were held, leaving a net debt of £6,235,797, exclusive of moneys borrowed from the General Government and repaid by annual instalments.

The total annual charge (excluding exchange and commission) stood at £395,257, of which £363,569 were for interest, and the remainder, £31,688, contributions to sinking fund accounts.

Of the total indebtedness in 1897–98 the debt of the Harbour Boards, £3,723,380, formed the largest item, while the Borough Councils owed £2,834,306.

Referring once more to the comparative table on page 187, and to the great advance in local bodies' debts, it will be found that between 1885–86 and 1895–96 the gross indebtedness increased from £4,943,270 to £6,737,578, an addition of £1,794,308 for the period, or 36·30 per cent. Between the same (census) years population advanced from 578,482 to 703,360, the increase having been 124,878 persons, or 21·59 per cent. The wealth of the colony was estimated at about £170,000,000 in 1886 and £215,000,000 in 1896, an accretion of £45,000,000 during the ten years. Thus, while the population of New Zealand increased by 21·59 per cent. in ten years, and wealth by 26·47 per cent., the debt of the local governing bodies advanced at the higher ratio of 36·30 per cent. during the same period.

In the second table (page 193) will be found a summary of the amounts raised by loan, classified according to the rates of interest paid, distinguishing loans raised in the colony from those raised abroad. It will be noticed that the amount raised abroad (£5,491,200) is more than four times as great as that raised in New Zealand (£1,343,161). The lowest rate of interest paid was 3 per cent., but the large sum of £3,067,392 was raised at 5 per cent., and £2,531,444 at 6 per cent., while £193,510 bore interest as high as 7 per cent.

LOANS OF LOCAL BODIES, MARCH, 1898.—NET INDEBTEDNESS AND ANNUAL CHARGE.

—	Amount of Debentures and Stock in Circulation.	Amount of Accrued Sinking Fund.	Net Indebtedness.	Annual Charge (excluding Exchange and Commission).		
				Interest.	Sinking Fund.	Total.
	£	£	£	£	£	£
Counties	11,710	591	11,119	739	80	819
Boroughs	2,834,306	309,342	2,524,964	155,568	11,613	167,181
Town Boards	620	48	572	37	15	52
Road Boards	6,400	211	6,189	330	70	400
River Boards	39,745	7,415	32,330	2,106	440	2,546
Water-supply Board	18,200	65	18,135	880	65	945
Harbour Boards	3,723,380	255,235	3,468,145	191,909	17,405	209,314
Drainage Board	200,000	25,657	174,343	12,000	2,000	14,000
Totals	6,834,361	598,564	6,235,797	363,569	31,688	395,257
Inscribed debt of local bodies under "The Government Loans to Local Bodies Act, 1886" (including inscribed stock exchanged for debentures under "The Roads and Bridges Construction Act, 1882")	742,530	..	742,530*	..	..	47,419
Outstanding debentures under "The Roads and Bridges Construction Act, 1882"	712	..	712	..	..	365†
Totals	7,577,603	598,564	6,979,039	..	..	443,041

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* Repayable by annual instalments of £47,419, representing 5 per cent. per annum on £948,372, the amount inscribed to 1st February, 1898. Payments for 26 years of 5 per cent. per annum on the amount inscribed (£948,372, including £89,878 debentures under "The Roads and Bridges Construction Act, 1882," exchanged) would be £1,232,883. The actual repayments to date are £267,594, leaving £965,289 to be paid by way of interest and sinking fund on a present indebtedness of £742,530.

† Amount for 1897–98.

LOANS OF LOCAL BODIES, RAISED WITHIN AND WITHOUT THE COLONY.

TABLE showing the Amount of Indebtedness of Counties, Boroughs, Town, Road, River, and Water-supply Boards, as on the 31st March, 1898, and of Harbour and Drainage Boards as on the 31st December, 1897, classified according to the Rates of Interest paid, distinguishing Loans raised in the Colony from those raised elsewhere. (See note ‡.)

Local Bodies.	No Interest.	3 %	4 %	4½ %	5 %	5¼ %	5½ %	5¾ %	6 %	6½ %	7 %	Total.
Loans raised in the Colony.												
	£	£	£	£	£	£	£	£	£	£	£	£
Counties	..	..	..	..	2,300	..	..	..	3,400	..	6,010	11,710
Boroughs	25,000	..	21,140	45,325*	82,217	18,000	64,900	5,000†	247,824	2,600	122,300	634,306
Town Boards	..	..	..	..	..	..	..	..	620	..	..	620
Road Boards	..	..	..	1,800	2,700	..	..	..	1,900	..	..	6,400
River Boards	..	..	..	2,000	2,275	..	3,320	..	6,150	..	..	13,745
Water-supply Board ..	..	..	..	6,000	12,200	..	..	..	..	..	..	18,200
Harbour Boards	..	14,538	110,000	49,000	445,000	..	35,992	..	3,450	..	200	658,180
Total raised in colony‡ ..	25,000	14,538	131,140	104,125*	546,692	18,000	104,212	5,000†	263,344	2,600	128,510	1,343,161‡
Loans raised outside the Colony.												
Boroughs	..	..	33,000	254,400	800,200	..	..	..	1,047,400	..	65,000	2,200,000
River Boards	..	..	..	..	21,000	..	..	..	5,000	..	..	26,000
Drainage Board	..	..	..	..	..	..	..	..	200,000	..	..	200,000
Harbour Boards	..	..	250,000	100,000	1,699,500	..	..	..	1,015,700	..	..	3,065,200
Total raised outside colony	..	..	283,000	354,400	2,520,700	..	..	..	2,268,100	..	65,000	5,491,200
Total Loans raised.												
Counties	..	..	..	..	2,300	..	..	..	3,400	..	6,010	11,710
Boroughs	25,000	..	54,140	299,725*	882,417	18,000	64,900	5,000†	1,295,224	2,600	187,300	2,834,306
Town Boards	..	..	..	..	..	..	..	..	620	..	..	620
Road Boards	..	..	..	1,800	2,700	..	..	..	1,900	..	..	6,400
River Boards	..	..	..	2,000	23,275	..	3,320	..	11,150	..	..	39,745
Water-supply Board ..	..	..	..	6,000	12,200	..	..	..	..	..	..	18,200
Drainage Board	..	..	..	..	..	..	..	..	200,000	..	..	200,000
Harbour Boards	..	14,538	360,000	149,000	2,144,500	..	35,992	..	1,019,150	..	200	3,723,380
Total loans raised‡ ..	25,000	14,538	414,140	458,525*	3,067,392	18,000	104,212	5,000†	2,531,444	2,600	193,510	6,834,361‡

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* Including £500 at 4¾ per cent. † Including £2,000 at 5·7 per cent. ‡ Not including loans, amounting to £743,242, repayable by annual instalments under "The Roads and Bridges Construction Act, 1882," and "The Government Loans to Local Bodies Act, 1886."

The aggregate interest-charge for the year under review was £363,569, and £293,939 of this was payable on loans raised outside the colony. The average rate of interest payable to bondholders was rather more than £5 6s. 9d. per cent., as shown hereunder:—

Loans raised by Local Bodies.	Debentures and Stock in Circulation. £	Interest-charge. £	Average Rate of Interest. %
In the Colony	25,000	Nil.	..
	1,318,161	69,630	5·206
Outside the Colony ..	5,491,200	293,939	5·353
Total (excluding loans from Government) ..	6,834,361[*]	363,569	5·339

While the average rate of interest on the above-mentioned debt is found to be 5⅓ per cent., three millions were raised at 5 per cent., and two and a half millions at 6 per cent.

RATEABLE VALUE OF PROPERTY IN COUNTIES AND BOROUGHS.

The aggregate value of rateable property in all boroughs, road, town, and outlying districts in the colony on the 31st March, 1898, was:—

Local Bodies.	Rateable Property. £	Total. £
Boroughs	4,247,099	
Boroughs (annual value, £2,184,174,[†] capitalised at 6 per cent.)	36,402,900	
		40,649,999
Counties—		
Road districts	38,599,042	
Town districts	879,126	
Town districts (annual value, £29,611,[†] capitalised at 6 per cent.)	493,516	
Outlying	35,335,454	
		75,307,138[‡]
Total rateable value of property ..		£115,957,137

Here the total value of rateable property in counties amounts to £75,307,138, and that in boroughs to £40,649,999.

The total value of rateable property in the colony, therefore, according to returns furnished by the local bodies, amounted, in March, 1898, to £115,957,137, exclusive of five counties where there are no local bodies raising revenue.

Some of the boroughs and town districts rate on a capital value, but most of them upon an annual value of property. In the foregoing statement the annual value has, where necessary, been capitalised at 6 per cent.

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[*] The £25,000 on which no interest is paid has not been taken into account in computing the average rate of interest.

[†] By "The Rating Act, 1894," "the 'rateable value' of any property means the rent at which such property would let from year to year, deducting therefrom 20 per centum in case of houses, buildings, and other perishable property, and 10 per centum in case of land and other hereditaments, but shall in no case be less than 5 per centum on the value of the fee-simple thereof." The values stated in the tables are taken from returns rendered by the local bodies.

[‡] Exclusive of property in Counties of Rotorua, East Taupo, West Taupo, Kawhia, and Sounds, where there are no local bodies raising revenue.

In case of the boroughs, the Act under which the valuation is made provides for a reduction from the renting-value of 20 per cent. on houses and buildings, and 10 per cent. on land. The actual annual value of the properties will, therefore, be greater than the rating value by from 11 to 25 per cent.

The figures given on the preceding page are taken from returns furnished by local bodies from information obtained prior to the general valuation of land and improvements by the Commissioner of Taxes, which has been described in the previous section.

"THE MUNICIPAL FRANCHISE REFORM ACT, 1898."

This is a law extending and amending the franchise in the case of boroughs, and provides that, in addition to the persons who are already entitled to be enrolled, every person shall be so entitled who possesses the freehold or residential qualifications stated in the Act.

The possession of the freehold qualification is defined as being the beneficial owner of a freehold estate in land of the capital value of not less than £25, situated in the borough, notwithstanding that the person may be already enrolled, or entitled so to be, as a ratepayer of the borough.

Every person is deemed to possess a residential qualification within a borough if he is, and for at least three months last past has been, a residential occupant within such borough.

No person may be entered in the burgess lists in respect of more qualifications than one; but (except in the case of a ratepayer) any person who has more than one qualification may select the one in respect of which he wishes to be entered.

In the case of husband and wife, any qualification possessed by one of them is deemed to be possessed by each.

No person enrolled on a burgess roll has more than one vote, and no person enrolled by virtue of the residential qualification can vote on any proposal relating to loans or rates.

RATING ON UNIMPROVED VALUE.

"The Rating on Unimproved Value Act, 1896," gives power to local governing bodies to levy rates upon the unimproved instead of upon the capital (or annual) value of real property, provided that the proposal to do so has been demanded by the required proportion of ratepayers, submitted to the ratepayers' vote, and declared carried by a majority of the valid votes recorded by at least one-third of the ratepayers on the roll.

Rates made and levied under this Act must be so adjusted as to equal as nearly as may be, but not exceed in their producing capacity, rates made and levied on the capital (or annual) value under "The Rating Act, 1894," see special article in Part III.

Up to the end of March, 1899, twelve local governing bodies (six boroughs, four counties, one town district, and one road district) had notified in the *New Zealand Gazette* that the proposal to levy rates on the unimproved value of land had been carried, while in eight cases (four boroughs and four counties) the proposal had been rejected.

The amount of rates levied by the various Borough Councils, County Councils, Town Boards, and Road Boards, and the value of the rateable property in each as returned by these bodies, with other particulars for the 31st March, 1898, were:—

BOROUGHS, 1897–98.

Name of Borough.	Estimated Area (including Town Belt) in Acres.	Population.	Number of			Amount of Rate levied in the Pound.					Estimated Annual (or renting) Value of Rateable Property in March, 1898.	Capital Value of Rateable Property, March, 1898.
			Dwellings.	Ratepayers.	Rateable Properties.	General.	Separate.	Special.	Water.	Library.		
						s. d.	s. d.	s. d.	s. d.	s. d.	£	£
Whangarei ..	1,825	1,250	300	265	350	0 0¾	..	..	..	..	..	84,829
Birkenhead ..	2,803	750	..	185	210	1 3	0 2¼	0 2¼	..	..	6,000	..
Devonport ..	640	3,150	641	593	1,045	1 0	..	0 9	9⅜d., or 4 per cent.	..	23,020	..
Auckland ..	1,772	38,620	7,870	7,460	7,984	1 0	..	1 0	2½ per cent.(1)	0 0½	322,376	..
Newton* ..	900	2,600	528	548	768	1 0	..	0 4	4 to 6 per cent.	..	17,338	..
Newmarket ..	150	1,950	380	282	348	1 3	..	0 7	4 to 6 per cent.	..	11,610	..
Parnell ..	480	4,330	860	554	913	1 3	..	0 9	4 per cent.	..	27,127	..
Onehunga ..	1,200	2,913	620	674	960	0 9	..	..	4 per cent.	..	14,067	..
Thames ..	2,560	5,500	..	894	1,523	1 0	0 6	..	2½ per cent.	0 1	29,714	..
Hamilton ..	1,600	1,250	400	401	631	1 0	..	..	..	..	7,694	..
Cambridge ..	1,083	865	250	215	688	1 0	..	..	..	..	4,760	..
Tauranga ..	1,000	1,050	370	405	601	1 0	..	1 3	..	..	4,365	..
Gisborne ..	1,260	2,500	485	434	750	1 3	..	0 6	..	..	26,072	..
New Plymouth ..	850	4,100	745	789	1,114	1 3	..	0 10	6d. and 1s.	..	28,200	..
Hawera ..	500	2,200	500	405	700	1 3	..	..	..	..	14,423	..
Patea ..	1,420	740	210	190	540	1 3	..	0 4⅜	0 1¾	..	5,040	..
Wanganui ..	1,000	6,400	1,225	920	1,455	0 10	..	1 5	..	..	46,000	..
Marton ..	1,423	1,200	227	254	404	1 1	..	1 0	..	0 1	10,303	..
Feilding ..	3,500	2,150	425	426	795	1 3	..	1 0	..	0 1	16,000	..
Palmerston North	4,593	6,000	1,243	1,108	2,538	0 1⅝	..	0 2⅞	(2)	..	..	554,623

* To be known as "Grey Lynn" from 16th August, 1899.

Foxton	..	..	1,140	218	216	447	1 3	..	..	..	0 1	6,961	..
Hastings	..	5,740	3,300	768	784	1,278	1 3	..	0 9	..	..	39,630	..
Napier	..	879	9,231	1,816	904	2,481	0 6	..	1 7	(3)	..	82,450	..
Dannevirke	..	1,222	1,600	350	384	1,036	1 3	..	0 9	..	..	11,313	..
Woodville	..	1,240	1,150	331	463	450	0 3⅝(4)	..	..	..	..	..	98,474
Pahiatua	..	750	1,200	280	372	443	1 3	..	0 2½	..	..	8,866	..
Masterton	..	4,311	3,800	737	626	1,120	1 0	..	0 5(5)	..	0 1	30,578	..
Carterton	..	1,880	1,300	270	240	304	0 1	..	..	..	..	..	88,361
Greytown	..	3,907	1,127	240	216	360	1 0	..	..	..	0 1	7,958	..
Lower Hutt	..	3,255	1,550	308	256	367	0 0¾	0 0¼	..	..	..	..	246,505
Petone	..	952	3,200	586	487	884	1 0	..	0 9	..	..	18,589	..
Onslow	..	2,870	1,300	270	330	370	0 0$\frac{15}{16}$	0 0¼	..	..	..	..	157,737
Wellington	..	1,100	40,220	7,358	4,500	9,266	1 3	0 5¼	3½d. & 4½d.	0 9⅜	0 1	379,000	..
Karori	..	5,127	1,024	196	222	298	0 0$\frac{15}{16}$	..	..	..	..	..	117,682
Melrose	..	3,962	2,275	455	645	739	0 0$\frac{15}{16}$	0 0¼	..	..	..	..	238,000
Picton	..	560	800	158	274	980	0 0¾	0 0⅓	..	⅞d. and $\frac{7}{16}$d.	..	..	65,614
Blenheim	..	1,571	3,000	719	480	1,434	1 1½	0 2	0 2½	..	..	24,852	..
Nelson	..	4,800	6,804	1,410	1,160	2,279	1 1	..	0 1	(6)	..	51,233	..
Richmond	..	2,300	595	124	128	143	0 0¾	..	..	4 per cent.	..	..	84,955
Westport	..	713	3,200	712	802	1,104	0 0$\frac{15}{16}$	0 0⅝	0 0$\frac{11}{16}$	..	..	..	163,625
Greymouth	..	2,000	3,200	743	557	1,118	1 3	..	..	..	..	22,489	..
Brunner	..	5,700	1,200	293	230	316	1 3	..	1 4	..	..	5,598	..
Kumara	..	842	1,150	258	246	389	0 0¾	0 1½	..	..	..	..	24,911
itika	..	1,280	2,100	725	542	970	0 0$\frac{15}{16}$	0 2½	0 1	..	..	..	81,257
s	..	4,196	750	300	354	414	0 0¾	0 1¼	..	..	..	..	27,414
giora	..	1,040	1,871	390	345	552	0 0¾	..	..	..	..	..	153,882
apoi	..	1,020	1,880	402	346	597	1 0	..	..	..	..	9,495	..
tchurch	..	1,249	17,259	3,912	2,404	4,699	1 0	0 2½	0 3	..	..	192,300	..
ood	..	650	6,848	1,325	1,134	1,352	0 0¾	(7)	..	..	..	..	438,895
	..	1,500	5,950	1,286	1,200	1,301	0 0¾	0 0$\frac{1}{12}$	..	..	..	..	599,373
	..	1,190	10,630	2,174	1,780	2,174	0 0¾	¾d., $\frac{3}{64}$d., $\frac{7}{16}$d.	..	..	..	..	699,779
	..	1,276	2,100	436	465	570	0 0¾	0 0$\frac{5}{32}$	..	..	..	..	177,779
		1,876	584	172	231	371	1 0	..	0 7	2 per cent.	..	6,736	..
		4,400	800	150	565	699	1 0	0 2	0 10	..	..	6,400	..
	..	1,014	4,053	778	528	327	1 0	..	..	..	..	22,950	..
	..	[illegible]	630	133	139	195	0 0$\frac{15}{16}$	..	..	..	..	..	45,680

The amount of rates levied by the various Borough Councils, County Councils, Town Boards, and Road Boards, and the value of the rateable property in each as returned by these bodies, with other particulars for the 31st March, 1898, were:—

BOROUGHS, 1897–98.

Name of Borough.	Estimated Area (including Town Belt) in Acres.	Population.	Number of			Amount of Rate levied in the Pound.					Estimated Annual (or renting) Value of Rateable Property in March, 1898.	Capital Value of Rateable Property. March, 1898.
			Dwellings.	Ratepayers.	Rateable Properties.	General.	Separate.	Special.	Water.	Library.		
						s. d.	s. d.	s. d.	s. d.	s. d.	£	£
Whangarei ..	1,825	1,250	300	265	350	0 0¾	..	..	..	..	..	84,829
Birkenhead ..	2,803	750	..	185	210	1 3	0 2¼	0 2¼	..	..	6,000	..
Devonport ..	640	3,150	641	593	1,045	1 0	..	0 9	9⅜d., or 4 per cent.	..	23,020	..
Auckland ..	1,772	38,620	7,870	7,460	7,984	1 0	..	1 0	2½ per cent.(1)	0 0½	322,376	..
Newton* ..	900	2,600	528	548	768	1 0	..	0 4	4 to 6 per cent.	..	17,338	..
Newmarket ..	150	1,950	380	282	348	1 3	..	0 7	4 to 6 per cent.	..	11,610	..
Parnell ..	480	4,330	860	554	913	1 3	..	0 9	4 per cent.	..	27,127	..
Onehunga ..	1,200	2,913	620	674	960	0 9	..	..	4 per cent.	..	14,067	..
Thames ..	2,560	5,500	..	894	1,523	1 0	0 6	..	2½ per cent.	0 1	29,714	..
Hamilton ..	1,600	1,250	400	401	631	1 0	..	..	..	..	7,694	..
Cambridge ..	1,083	865	250	215	688	1 0	..	..	..	..	4,760	..
Tauranga ..	1,000	1,050	370	405	601	1 0	..	1 3	..	..	4,365	..
Gisborne ..	1,260	2,500	485	434	750	1 3	..	0 6	..	..	26,072	..
New Plymouth ..	850	4,100	745	789	1,114	1 3	..	0 10	6d. and 1s.	..	28,200	..
Hawera ..	500	2,200	500	405	700	1 3	..	..	..	..	14,423	..
Patea ..	1,420	740	210	190	540	1 3	..	0 4⅜	0 1¾	..	5,040	..
Wanganui ..	1,000	6,400	1,225	920	1,455	0 10	..	1 5	..	..	46,000	..
Marton ..	1,423	1,200	227	254	404	1 1	..	1 0	..	0 1	10,303	..
Feilding ..	3,500	2,150	425	426	795	1 3	..	1 0	..	0 1	16,000	..
Palmerston North	4,593	6,000	1,243	1,108	2,538	0 1⅝	..	0 2⅝	(2)	..	..	554,623

* To be known as "Grey Lynn" from 16th August, 1899.

Foxton ..	..	1,140	218	216	447	1 3	..	..	..	0 1	6,961	..
Hastings ..	5,740	3,300	763	734	1,278	1 3	..	0 9	..	..	39,630	..
Napier ..	879	9,231	1,816	904	2,481	0 6	..	1 7	(3)	..	82,450	..
Dannevirke ..	1,222	1,600	350	384	1,036	1 3	..	0 9	..	..	11,313	..
Woodville ..	1,240	1,150	331	463	450	0 $3\frac{5}{8}$(4)	..	..	..	..	..	98,474
Pahiatua ..	750	1,200	280	372	443	1 3	..	0 $2\frac{1}{2}$	..	..	8,866	..
Masterton ..	4,311	3,800	737	626	1,120	1 0	..	0 5(5)	..	0 1	30,578	..
Carterton ..	1,880	1,300	270	240	304	0 1	..	..	..	..	..	88,361
Greytown ..	3,907	1,127	240	216	360	1 0	..	..	..	0 1	7,958	..
Lower Hutt ..	3,255	1,550	308	256	367	0 $0\frac{3}{4}$	0 $0\frac{1}{4}$	..	..	..	..	246,505
Petone ..	952	3,200	586	487	884	1 0	..	0 9	..	..	18,589	..
Onslow ..	2,870	1,300	270	330	370	0 $0\frac{15}{16}$	0 $0\frac{1}{4}$	..	..	..	..	157,737
Wellington ..	1,100	40,220	7,358	4,500	9,266	1 3	0 $5\frac{1}{4}$	$3\frac{1}{2}$d. & $4\frac{1}{2}$d.	0 $9\frac{3}{5}$	0 1	379,000	..
Karori ..	5,127	1,024	196	222	298	0 $0\frac{15}{16}$	..	..	..	..	..	117,682
Melrose ..	3,962	2,275	455	645	739	0 $0\frac{15}{16}$	0 $0\frac{1}{4}$	..	..	..	..	238,000
Picton ..	560	800	158	274	980	0 $0\frac{3}{4}$	0 $0\frac{1}{5}$	..	$\frac{7}{8}$d. and $\frac{7}{16}$d.	..	..	65,614
Blenheim ..	1,571	3,000	719	480	1,434	1 $1\frac{1}{2}$	0 2	0 $2\frac{1}{2}$	..	..	24,852	..
Nelson ..	4,800	6,804	1,410	1,160	2,279	1 1	..	0 1	(6)	..	51,233	..
Richmond ..	2,300	595	124	128	143	0 $0\frac{3}{4}$	..	..	4 per cent.	..	..	84,955
Westport ..	713	3,200	712	802	1,104	0 $0\frac{15}{16}$	0 $0\frac{5}{8}$	0 $0\frac{11}{16}$	..	..	..	163,625
Greymouth ..	2,000	3,200	743	557	1,118	1 3	..	..	..	..	22,489	..
Brunner ..	5,700	1,200	293	230	316	1 3	..	1 4	..	..	5,598	..
Kumara ..	842	1,150	258	246	389	0 $0\frac{3}{4}$	0 $1\frac{1}{2}$	..	..	..	..	24,911
Hokitika ..	1,280	2,100	725	542	970	0 $0\frac{15}{16}$	0 $2\frac{1}{3}$	0 1	..	..	..	81,257
Ross ..	4,196	750	300	354	414	0 $0\frac{3}{4}$	0 $1\frac{1}{4}$	..	..	..	..	27,214
Rangiora ..	1,040	1,871	390	345	552	0 $0\frac{3}{4}$	..	..	..	..	..	153,882
Kaiapoi ..	1,020	1,880	402	346	597	1 0	..	..	..	..	9,495	..
Christchurch ..	1,249	17,259	3,912	2,404	4,699	1 0	0 $2\frac{1}{2}$	0 3	..	..	192,300	..
Linwood ..	650	6,348	1,325	1,134	1,352	0 $0\frac{3}{4}$	(7)	..	..	..	..	438,895
St. Albans ..	1,500	5,950	1,286	1,200	1,301	0 $0\frac{3}{4}$	0 $0\frac{1}{12}$	..	..	..	..	599,373
Sydenham ..	1,190	10,630	2,174	1,780	2,174	0 $0\frac{3}{4}$	$\frac{3}{4}$d., $\frac{3}{64}$d., $\frac{7}{48}$d.	..	..	..	..	699,779
Woolston ..	1,276	2,100	436	465	570	0 $0\frac{3}{4}$	0 $0\frac{5}{32}$	..	..	..	..	177,779
Sumner ..	4,876	584	172	231	371	1 0	..	0 7	2 per cent.	..	6,736	..
New Brighton ..	1,400	800	150	565	699	1 0	0 2	0 10	..	..	6,400	..
Lyttelton ..	2,014	4,053	778	528	827	1 0	..	..	..	..	22,950	..
Akaroa ..	221	630	133	139	195	0 $0\frac{15}{16}$	..	..	..	..	..	45,680

BOROUGHS, 1897-98—*continued.*

Name of Borough.	Estimated Area (including Town Belt) in Acres.	Population.	Number of			Amount of Rate Levied in the Pound.					Estimated Annual (or renting) Value of Rateable Property in March, 1898.	Capital Value of Rateable Property, March, 1898.
			Dwellings.	Ratepayers.	Rateable Properties.	General.	Separate.	Special.	Water.	Library.		
						s d	s. d.	s. d.	s. d.	s. d.	£	£
Ashburton ..	680	2,100	485	506	..	1 0	..	..	..	..	19,756	..
Timaru	540	3,800	728	550	1,102	0 6	..	1 0	2½ to 5 per cent.	..	33,320	..
Waimate ..	649	1,500	500	311	500	1 0	..	..	..	..	7,220	..
Oamaru	1,111	5,327	1,062	1,095	1,530	1 3	..	1 6	([8])	..	30,760	..
Hampden ..	640	320	80	125	187	0 0¾	..	..	..	..	..	12,103
Palmerston South	800	775	177	248	360	0 0½	..	..	..	..	..	37,421
Hawksbury ..	2,700	730	140	220	440	0 0½	..	..	..	..	..	48,400
Port Chalmers ..	335	2,100	487	462	563	1 0	..	0 6	([9])	..	11,400	..
North-east Valley	3,980	3,500	740	1,190	1,200	1 0	..	0 6	..	..	17,691	..
Maori Hill ..	3,700	1,480	315	312	355	1s. & 1s. 3d.	..	..	..	..	10,064	..
West Harbour ..	1,670	1,500	291	449	632	1 0	..	1 0	..	..	9,154	..
Dunedin ..	1,800	22,815	4,769	2,795	4,401	1 3	..	0 3	([10])	..	233,248	..
Roslyn	2,000	4,100	802	891	1,024	1 0	0 1	..	..	..	28,033	..
Mornington ..	654	3,652	797	810	982	1 0	..	0 1½	..	..	21,584	..
Caversham ..	1,073	4,900	953	769	1,135	1 3	0 3	0 3	5 per cent.	..	29,743	..
St. Kilda ..	463	1,198	238	371	1,336	1 0	..	0 6	..	..	8,780	..
South Dunedin ..	413	4,950	990	855	1,051	1 3	0 3	0 6	6 per cent.	..	20,774	..
Green Island ..	103	700	150	181	171	1 0	..	..	..	..	2,917	..
Mosgiel	967	1,450	310	296	494	1 0	..	..	..	..	8,126	..
Milton	265	1,300	240	220	300	1 0	..	..	..	..	5,998	..
Kaitangata ..	1,156	1,400	296	275	541	1 0	..	0 6	..	..	6,062	..
Balclutha ..	568	925	230	255	290	1 0	..	..	..	0 1	5,299	..
Lawrence ..	640	1,010	230	265	273	1 0	..	..	6d. and 3d.	..	7,620	..
Roxburgh ..	400	450	105	72	122	1 0	..	..	..	..	1,512	..
Tapanui ..	40	450	130	..	..	1 3	..	..	..	..	1,879	..

Naseby ..	112	500	143	130	164	1 0	..	..	(11)	..	2,346	..
Cromwell ..	640	550	168	156	240	1 3	..	0 2½	0 10	..	3,450	..
Alexandra ..	840	400	90	87	100	1 0	..	..	..	..	2,055	..
Arrowtown ..	390	409	120	111	240	1 0	..	..	1 0	..	2,165	..
Queenstown ..	923	750	268	175	714	1 0	..	0 6	(12)	..	4,921	..
Gore	1,150	2,500	480	588	1,317	1 0	..	..	..	..	14,479	..
Mataura ..	1,530	800	210	177	475	1 0	..	..	..	..	3,890	..
Winton ..	162	400	86	111	154	1 3	..	..	..	..	2,414	..
Invercargill ..	1,000	6,250	1,160	900	1,700	1 0	..	1 0	(13)	..	55,882	..
North Invercargill	326	920	192	242	319	1 0	..	1 8	..	..	3,908	..
South Invercargill	4,000	1,920	366	603	909	1 3	..	1 11	..	..	5,940	..
East Invercargill	121	980	177	214	214	1 3	..	0 9	..	..	3,943	..
Avenal	80	400	60	67	100	1 0	..	..	..	..	1,898	..
Gladstone ..	240	380	66	135	135	1 0	..	0 6	..	..	2,693	..
Campbelltown ..	2,000	1,122	300	330	553	1 3	..	..	..	..	7,618	..
Riverton ..	718	1,000	240	220	437	1 3	..	..	..	..	4,125	..
Totals ..	..	..	..	..	..	..	..	..	..	..	2,184,174	4,247,099

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(1) To consumers only.

(2) Maximum under "Municipal Corporations Act, 1886."

(3) 2½ to 1 per cent., according to value, or 1s. 3d. per 1,000 gallons by meter.

(4) On unimproved value, £41,446.

(5) Not collected.

(6) 3½ per cent. on dwellings, and 2 per cent. on stores, &c.

(7) $\frac{9}{64}$d., and $\frac{3}{16}$d.; drainage rate, ¾d.; S. Waimakariri River Board, $\frac{3}{64}$d.

(8) Maximum under "Municipal Corporations Act, 1886."

(9) In terms of section 325, "Municipal Corporations Act, 1886."

(10) Maximum under "Municipal Corporations Act, 1886."

(11) 7, 6, 3½, and 2½ per cent. on rateable value.

(12) 6d. in the pound where water is laid on, and 3d. where not.

(13) Maximum under "Municipal Corporations Act, 1886."

TOWN DISTRICTS, 1897–98.

Town Districts.	Population, Census, April, 1896.	Number of			Amount of Rate levied in the Pound.		Capital Value of Rateable Property.	Annual Value of Rateable Property.
		Dwellings.	Ratepayers.	Rateable Properties.				
					s.	d.	£	£
Kamo..	222	71	83	96	0	0¾	15,087	..
Helensville	564	116	100	133	0	3	..	2,719
Papakura	274	73	154	202	0	0¼	18,550	..
Te Aroha	672	215	300	314	1	0	..	5,340
Te Awamutu	347	45	66	66	0	0¾	19,338	..
Kihikihi	202	60	120	158	0	0½	9,270	..
Ngaruawahia	235	60	144	144	0	0¾	13,057	..
Rotorua*	499	..	..	..	..		..	..
Opotiki	641	220	190	281	0	0½	29,565	..
Waitara (Raleigh)	517	145	220	299	0	0¾	27,500	..
Opunake	400	100	164	539	0	0½	25,971	..
Inglewood	658	160	153	385	0	0¾	27,234	..
Normanby	396	80	100	100	0	1½	13,457	..
Stratford	1,256	280	348	690	0	0¾	66,684	..
Manaia	471	80	161	200	0	0¾	26,929	..
Waverley	442	100	100	100	0	0¾	20,801	..
Lethbridge (Turakina)	251	53	47	65	0	8	..	1,624
Bull's..	521	118	120	173	1	0	..	3,635
Halcombe	376	97	163	730	1	0	..	1,605
Clyde (Wairoa)	579	120	168	292	0	0¾	43,612	..
Taradale	807	148	136	183	0	0½	72,464	..
Ormondville†	453	190	160	215	0	6	..	2,513
Waipawa	764	153	132	195	0	10	..	6,251
Kaikora North	301	62	103	135	1	0	..	2,320
Featherston	711	109	150	190	0	0¾	46,005	..
Johnsonville	493	92	90	146	0	0½	45,830	..
Havelock	365	96	95	..	0	1	17,242	..
Amberley	437	93	93	130	0	0¾	27,525	..
Southbridge	494	200	125	245	0	0¾	34,165	..
Hampstead	1,214	200	268	314	0	0½	62,974	..
Tinwald	538	100	119	189	0	0¾	46,301	..
Geraldine	841	170	196	307	0	0¾	39,660	..
Temuka	660	150	154	600	0	0¾	52,330	..
Arowhenua	789	215	370	500	0	0½	29,488	..
Allanton (Greytown)	274	104	70	87	0	0½	6,737	..
Outram	452	86	66	66	0	0¼	27,640	..
Clinton	474	90	123	135	1	0	..	1,375
Wyndham	483	104	104	354	1	0	..	2,229
Otautau	367	84	105	105	0	0¾	13,710	..
Totals	..	..	..	..	..		879,126	29,611

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* Special town district under "The Thermal-Springs Districts Act, 1881."

† The figures are for 1896–97, later accounts not being procurable.

ROAD DISTRICTS, 1897–98.

County and District.	Population, Census, 1896.	Number of			Value of Rateable Property.	Amount of Rate levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.		
					£	d.
Mongonui—						
Oruaiti (merged)	91	..	..	..	..	..
Oruru	534	108	..	..	27,471	½
Whangaroa Bay of Islands Hokianga Hobson } (No road districts.)						
Whangarei—						
Hikurangi	354	115	85	120	21,838	¾
Kaurihohore	212	32	45	55	16,846	¾
Kensington	324	20	29	32	7,478	¾
Maungakaramea ..	227	48	102	102	23,032	¾
Maunu	557	130	140	140	41,438	¾
Otonga	207	52	55	57	13,301	¾
Otonga East	246	68	80	105	16,490	¾
Parua Bay	299	155	205	255	20,018	¾
Ruarangi	117	20	58	65	11,182	¾
Waikiekie	180	31	196	265	17,068	¾
Waipu North	209	46	86	86	18,081	¾
Whareora	101	63	78	80	6,736	¾
Otamatea—						
Mangawai	272	52	88	88	21,092	¾
Matakohe	328	50	169	169	27,479	¾
Whakapirau (no Board) ..	..	..	..	..	35,000	..
Rodney—						
Albertland North ..	61	10	48	48	7,696	¾
Albertland South ..	347	76	229	234	26,364	¾
Ahuroa	36	12	58	64	4,530	¾
Komokoriki	79	12	39	42	6,622	¾
Mahurangi East ..	135	34	71	71	10,790	(1)
Mahurangi Upper ..	833	171	277	359	62,225	¾
Mainene	54	15	34	45	6,098	(1)
Matakana East ..	109	17	22	22	7,966	½
Matakana West ..	194	60	70	130	13,646	¾
Omaha	337	86	158	173	21,271	¾
Puhoi	465	80	127	130	32,856	¾
Tauhoa	409	69	93	..	21,175	¾
Wharehine	101	20	54	31	15,912	¾
Waitemata—						
Kaukapakapa	577	90	170	244	42,585	¾
Pukeatua	650	80	203	350	26,874	¾
Whangaparaoa ..	107	22	35	41	7,403	¾

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(1) No rate struck.

ROAD DISTRICTS, 1897-98—*continued*.

County and District.	Population. Census, 1896.	Number of Dwellings.	Number of Ratepayers.	Number of Rateable Properties.	Value of Rateable Property.	Amount of Rate levied in the Pound.
Eden—					£	d.
Avondale	901	200	268	322	84,402	..
Arch Hill	1,557	350	283	572	91,833	1s.(1)
Eden Terrace	1,604	369	299	438	87,737	¾(2)
Epsom	660	125	114	123	142,695	½
Mount Albert	1,668	270	414	437	147,564	¾
Mount Eden	3,677	850	800	900	315,226	¾(3)
Mount Roskill ..	495	88	170	230	129,297	½
Mount Wellington ..	876	162	195	576	135,587	⅝
One-tree Hill	975	150	170	214	170,229	½
Panmure Township ..	323	76	88	132	13,362	½
Point Chevalier ..	591	31	37	44	30,142	½
Remuera	2,034	380	367	450	357,770	¾
Tamaki West	382	80	93	117	88,703	¾
Manukau—						
Awhitu	372	100	120	140	26,446	¾
Howick Town	220	69	112	103	11,000	¾
Hunua	230	30	135	150	20,640	¾
Karaka	189	60	72	160	20,150	¾
Mangare	854	161	154	210	151,426	¾
Manurewa	213	56	84	120	28,466	¾
Maraetai	96	22	22	33	9,274	¾
Mauku	423	96	133	171	48,394	½(4)
Maungatawhiri ..	293	46	64	88	28,597	½
Mercer Township ..	215	35	55	73	10,989	¾
Opaheke	462	88	110	126	41,474	¾
Opaheke North ..	367	95	162	211	32,829	¾
Otahuhu	942	296	258	330	77,395	¾
Pakuranga	346	66	70	94	48,270	¾
Papakura	393	74	96	103	41,670	¾
Paparata	407	82	112	160	37,240	¾
Paparoa	107	37	64	69	14,670	¾
Papatoitoi	176	36	65	..	51,498	¼
Pokeno	405	73	89	93	31,563	¾
Pollok Settlement ..	133	22	32	45	10,693	¾
Pukekohe East ..	884	235	250	250	77,778	½
Pukekohe West ..	1,104	208	216	220	113,525	¾
Tamaki East	668	111	121	160	89,750	¾
Turanga	209	44	61	70	21,396	¾(5)
Waipipi	827	180	260	400	81,336	¾(6)
Wairoa	859	170	225	260	82,250	¾
Waiuku	454	100	185	185	59,187	¾
Coromandel Thames Ohinemuri } (No road districts.)						

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(1) On annual value. (2) ⅜d. special. (3) ⅜d. special. (4) 5/16d., West Mauku Ward; ½d., 1d. Patumahoe Ward. (5) ½d. special. (6) ½d. special.

ROAD DISTRICTS, 1897–98—*continued.*

County and District.	Population, Census, 1896.	Number of			Value of Rateable Property.	Amount of Rate levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.		
					£	d.
Piako—						
Matamata	231	40	52	57	87,841	¾
Waitoa	979	252	218	270	239,369	¾
Waikato—						
Cambridge	538	90	93	93	111,095	½
Kirikiriroa	823	150	251	251	235,997	½
Tamahere	202	22	38	30	60,350	¾
Whangamarino ..	407	77	206	419	63,020	¾ and ½
Huntly	844	300	196	224	67,810	¾
Waipa—						
Newcastle	393	96	150	160	57,290	¾
Pukekura	802	172	370	450	122,820	½
Rangiaohia	549	90	113	113	72,854	⅜
Tuhikaramea	89	20	51	51	19,414	¾
Raglan—						
Karamu (no Board) ..	74	..	..	..	..	..
Onewhero	170	46	58	61	12,500	(1)
Te Akau (no Board) ..	51	..	..	..	..	..
Kawhia West Taupo East Taupo Rotorua } (No road districts.)						
Tauranga—						
Katikati	397	56	48	145	26,353	¾
Te Puke	397	70	115	184	45,598	¾
Te Puna	165	30	135	140	24,801	(1)
Whakatane—						
Opotiki	584	120	214	252	105,705	½
Whakatane	467	200	250	272	76,388	¾
Waiapu (no road districts).						
Cook—						
Kaiti	565	95	160	450	59,100	¾(2)
Ngatapa	434	93	74	77	224,572	(1)
Ormond	461	100	100	222	70,553	½
Patutahi	582	87	127	266	195,992	(1)
Pouawa	55	45	75	110	94,000	(3)
Poverty Bay	1087	109	121	121	130,490	½(4)
Taruheru	(5)	45	51	51	80,600	(1)
Te Arai	285	69	35	135	164,458	⅕

(1) No rate struck. (2) ⅜d. and ¾d. special. (3) ½d., 2d., and 2¼d. special. (4) 3-16d. special. (5) Cut out of Poverty Bay.

ROAD DISTRICTS, 1897-98—*continued*.

County and District.	Population, Census, 1896.	Number of Dwellings.	Number of Ratepayers.	Number of Rateable Properties.	Value of Rateable Property.	Amount of Rate levied in the Pound.
Cook—*continued*.					£	d.
Waikohu	189	30	30	85	316,121	(1)
Waimata	259	47	47	50	130,459	½
Whataupoko	936	160	230	270	67,580	¾
Clifton (no road districts).						
Taranaki—						
Barrett	372	84	84	95	36,038	(1)
Carrington	232	49	71	79	31,954	¾(2)
Egmont	667	94	130	131	65,303	½(3)
Elliot	215	39	50	53	15,894	¾
Frankley	278	55	62	62	26,439	¾
Henui	391	76	82	93	28,554	¾
Hurford, Upper ..	69	18	18	18	7,955	¾
Mangorei	246	47	60	60	30,030	¾
Moa	2,451	430	490	500	225,800	¾(4)
Oakura	320	50	127	..	39,272	¼
Okato	306	60	70	88	43,736	¼
Omata	291	55	46	53	36,065	½
Parihaka	1,187	230	350	748	217,157	¼(5)
Tataraimaka	126	26	35	36	25,502	¼
Waitara West	851	160	160	222	92,685	¾
Waiwakaiho	393	67	112	176	35,946	¾
Stratford—						
Manganui	1,478	320	350	889	145,692	¾(6)
Hawera—						
Waimate	2,229	420	461	600	470,131	¾(6)
Patea—						
Kohi	195	32	30	30	50,139	¾
Motoroa	37	16	19	19	24,071	¾
Okotuku	144	24	29	33	49,455	(1)
Patea East	384	65	104	355	120,072	(1)
Patea West	799	170	213	626	186,504	(1)
Wairoa	98	22	29	29	49,943	¾
Waitotara-Momohaki ..	492	112	118	357	109,869	¾
Whenuakura-Waitotara	334	40	42	42	127,697	¼
Waitotara (no road districts).						
Wanganui—						
Kaukatea	161	35	50	108	88,341	¾
Kaitoke	537	100	112	174	133,017	½
Mangawhero	715	200	277	277	210,309	⅛

(1) No rate struck. (2) ¼d. and 5-6d. special. (3) ¾d. special, portion of district.
(4) ¼d. special. (5) Special, various; ¾d. separate. (6) Special, various.

Road Districts, 1897–98—*continued.*

County and District.	Population, Census, 1896.	Number of			Value of Rateable Property.	Amount of Rate levied in the pound.
		Dwellings.	Ratepayers.	Rateable Properties.	£	d.
Wanganui—*continued.*						
Purua	839	175	171	195	182,260	¾
Upper Wangaehu ..	450	86	86	132	137,303	¾(1)
Rangitikei—						
Hunterville (merged) ..	..	150	189	..	26,649	¾
Oroua—						
Fitzherbert	564	132	277	376	309,653	¾
Manawatu	2,163	412	460	693	555,257	¾
Manchester	3,347	725	608	1,820	909,234	⅝(2)
Pohangina Kiwitea Manawatu } (No road districts.)						
Horowhenua—						
Otaki	1,198	201	307	707	200,006	¾(1)
Te Horo	405	74	134	342	175,078	⅝(3)
Wirokino	..	860	475	1,021	618,282	½(1)
Wairoa Hawke's Bay } (No road districts.)						
Waipawa—						
Kumeroa	404	100	120	238	118,554	½d. & ¼d.
Maungaatua	249	42	58	247	74,606	¾
Norsewood	1,043	170	236	250	100,874	¾
Ruataniwha North ..	581	102	92	92	278,560	¾
Takapau	523	80	60	70	196,416	⅝
Waipawa	327	55	69	102	60,605	½
Waipukurau	816	111	102	126	298,310	⅝
Woodville	1,001	200	225	331	118,441	¾
Patangata—						
Oero	198	34	45	45	292,147	¾
Patangata	339	44	44	99	132,211	¼
Porangahau	474	62	62	102	235,161	¾
Taumumu	228	19	19	19	457,360	5/16
Wallingford	244	18	18	33	296,671	½
Wanstead	121	54	54	72	110,147	(4)
Weber	469	79	131	158	195,262	¾
Pahiatua (no road districts.)						

(1) Special, various. (2) Special, 3-16d.; separate, various. (3) 5-16d. special.
(4) No rate struck.

ROAD DISTRICTS, 1897-98—*continued.*

County and District.	Population, Census, 1896.	Number of Dwellings.	Number of Ratepayers.	Number of Rateable Properties.	Value of Rateable Property.	Amount of Rate levied in the Pound.
Wairarapa North—*					£	d.
Akitio	453	37	39	48	242,801	½
Castlepoint	657	90	84	106	290,498	½
Eketahuna	2,159	..	500	1,030	244,210	7/16(1)
Masterton	2,062	380	350	438	610,964	7/16, 5/16, ⅜(1)
Mauriceville	1,086	263	253	315	138,789	⅝
Upper Taueru	211	46	53	56	99,000	⅜(2)
Wairarapa South—						
Featherston	2,204	500	440	600	1,081,444	¾
Taratahi-Carterton ..	2,494	660	648	852	702,576	¾(1)
Hutt—						
Makara	278	44	53	138	82,724	½(3)
Seatoun	175	·60	61	81	30,220	¾
Sounds (no road districts).						
Marlborough—						
Awatere	432	70	46	63	502,431	¾
Omaka	1,617	250	349	403	279,688	⅝
Pelorus	1,407	260	264	380	190,245	¾(4)
Picton	866	181	158	250	120,826	¾
Spring Creek	769	120	135	139	150,838	¾ & 3/16
Wairau	874	138	132	200	365,350	½
Kaikoura (no road districts).						
Collingwood—						
Collingwood	1,019	272	327	900	82,457	¾
Takaka	1,405	327	295	690	121,760	¾
Waimea—						
Dovedale	327	48	72	72	29,393	¼
Motueka	976	175	163	..	83,768	¾
Moutere Upper ..	409	100	97	..	35,764	..
Riwaka	624	125	128	..	74,104	½
Stoke	1,244	..	210	..	214,415	(5)
Suburban North ..	593	110	121	224	88,421	(5)
Waimea West	422	75	70	70	78,027	..
Buller Inangahua Grey Westland Amuri } (No road districts.)						

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* Counties of Akitio and Eketahuna constituted, 5th November, 1898.

(1) Special, various. (2) 2⅜d. and ⅜d. special. (3) ½d. special. (4) ⅜d. special.

(5) No rate struck.

ROAD DISTRICTS, 1897-98—*continued.*

County and District.	Population, Census, 1896.	Number of Dwellings.	Number of Ratepayers.	Number of Rateable Properties.	Value of Rateable Property.	Amount of Rates levied in the Pound.
Cheviot (no Board).					£	d.
Ashley—						
Ashley	686	140	180	215	299,709	$\frac{1}{2}$
Cust	771	157	137	157	124,099	$\frac{1}{2}$
Eyreton	1,726	320	272	272	377,584	$\frac{5}{8}$
Eyreton West	397	85	77	77	189,962	$\frac{1}{4}$
Kowai	1,967	..	..	683	488,964	$\frac{3}{8}$(1)
Mandeville and Rangiora	2,488	520	425	591	576,661	$\frac{3}{8}$
Oxford	2,213	452	469	690	337,076	$\frac{3}{4}$
Waipara	1,227	260	234	391	1,109,808	$\frac{1}{2}$
Selwyn—						
Avon	4,532	1,085	802	1,160	469,866	1s.(2)
Courtenay	2,491	410	433	602	721,527	$\frac{1}{3}$
Ellesmere	3,841	..	561	564	1,023,440	$\frac{5}{8}$
Halswell	1,179	220	200	210	289,036	$\frac{1}{2}$
Heathcote	2,369	464	625	673	374,960	$\frac{4}{5}\frac{1}{6}$(3)
Lake Coleridge ..	141	30	37	51	211,264	(4)
Lincoln	1,322	268	233	283	343,690	$\frac{5}{8}$, $\frac{9}{16}$
Malvern	707	175	153	249	123,287	$\frac{1}{2}$
Malvern East	628	129	164	246	116,179	$\frac{1}{2}$
Malvern South ..	483	90	150	303	93,470	$\frac{1}{2}$
Rakaia	889	185	190	287	311,394	$\frac{1}{4}$
Riccarton	5,206	920	960	1,190	765,382	$\frac{3}{8}$
Spreydon	1,278	300	299	329	131,690	$\frac{5}{8}$
Springs	1,984	450	390	508	484,922	$\frac{1}{2}$
Taitapu	376	100	60	60	96,500	$\frac{3}{4}$
Templeton	2,048	420	478	591	385,279	$\frac{1}{2}$
Upper Waimakariri ..	122	21	14	41	64,039	(4)
Akaroa—						
Akaroa and Wainui ..	1,416	220	242	356	292,827	$\frac{3}{4}$
Le Bon's Bay	271	55	79	80	66,083	$\frac{3}{8}$(5)
Little River	820	250	160	283	343,216	$\frac{1}{2}$
Okain's Bay	567	103	116	125	111,663	$\frac{3}{4}$
Pigeon Bay	352	58	52	66	109,893	$\frac{3}{4}$
Port Levy	132	28	39	45	100,087	$\frac{1}{2}$
Port Victoria	328	80	88	92	64,676	$\frac{3}{4}$
Ashburton—						
Anama	69	14	17	20	52,514	$\frac{1}{2}$
Ashburton Upper ..	1,811	350	450	550	574,385	$\frac{1}{4}$ to $\frac{3}{4}$
Coldstream	365	61	70	88	219,399	$\frac{1}{4}$
Longbeach	1,400	..	227	327	433,768	$\frac{1}{2}$, $\frac{3}{8}$, $\frac{5}{16}$ $\frac{9}{16}$
Mount Hutt	1,157	250	273	372	685,841	$\frac{1}{4}$
Mount Somers.. ..	918	182	225	225	191,116	$\frac{3}{8}$

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(1) $\frac{1}{2}$d. special, part of district. (2) Separate, 1s., $\frac{3}{4}$d., 2 3-7d. (3) 1-7d. special, H. and C.A.
(4) No rate struck. (5) 5-16d. special.

ROAD DISTRICTS, 1897-98—*continued*.

County and District.	Population, Census, 1896.	Number of Dwellings.	Number of Ratepayers.	Number of Rateable Properties.	Value of Rateable Property.	Amount of Rates levied in the Pound.
Ashburton—*continued*.					£	d.
Rangitata	703	156	208	236	361,682	¼
South Rakaia	1,558	311	337	420	487,680	¼
Wakanui	1,087	187	230	230	350,281	5/16 to ⅜
Geraldine—						
Geraldine	2,424	470	471	550	465,179	¾
Mount Peel	517	92	88	103	411,662	½
Temuka	2,268	410	505	634	646,981	11/16
Levels Mackenzie Waimate Waitaki Waihemo Waikouaiti (No road districts.)						
Peninsula—						
Otago Heads	306	..	..	..	33,502	..
Peninsula	1,294	218	333	393	187,453	¾
Portobello	877	..	356	366	141,864	¾
Tomahawk	168	23	33	44	29,685	¾
Taieri (no road districts.)						
Bruce—						
Balmoral	370	53	65	83	224,720	..
Inch-Clutha (Road and River)	420	67	67	74	66,361	¾
Mount Stuart	708	115	115	130	108,930	½
Clutha Tuapeka Maniototo Vincent Lake (No road districts.)						
Southland—						
Invercargill (no Board.)	1,382	..	..	..	..	..
Knapdale	1,391	290	255	274	257,788	½
Otaraia	656	250	169	269	125,748	¾
Oteramika	1,894	365	466	..	272,971	¾, ½
Tuturau	732	95	101	110	140,092	¾
Waimumu (Merged 1st June, 1897)	574	117	127	191	171,591	..
Wyndham (Merged 1st June, 1897)	316	44	50	68	78,789	..
Wallace Fiord Stewart Island (No road districts.)						
Totals	..	..	..	..	38,599,042	

COUNTIES, 1897–98.

Counties.	Area in Square Miles.	Population, Census, April, 1896.	Value of Rateable Property in Counties (including Town and Road Districts, and Outlying).	Rates struck by County.	
				General.	Other.
			£		
Mongonui	934	1,889	133,949	¾d.	
Whangaroa	160	969	36,451	1½d.	
Hokianga	972	1,909	197,139	1d.	
Bay of Islands ..	826	2,723	175,522	1d.	
Hobson	688	3,750	270,000	1½d.	
Whangarei	928	6,847	708,465	¾d.	¾d. separate.
Otamatea	364	2,483	237,973	¾d.	Separate on outlying, part ¾d., part ½d.
Rodney	566	3,464	270,495	¾d.	Separate ¾d. in Hoteo Riding; special ¾d. part of Mahurangi Riding.
Waitemata	613	6,762	630,872	¾d.	Separate ½d. in four ridings; ¾d. separate in three ridings.
Eden	43	15,940	1,694,547	..	
Manukau	791	12,185	1,286,456	..	
Coromandel	403	4,987	184,000	1½d.	¾d. Native rate on property, value £26,807.
Thames	494	4,515	191,860	1½d.	
Ohinemuri ..	478	4,761	125,868	1½d.	
Piako	1,095	2,706	704,934	½d.	Separate ¼d., Te Aroha and Taotaoroa Ridings, ½d. Patetere Riding; special, ½d. Te Aroha Riding, $\frac{1}{10}$d. Patetere Riding.
Waikato	591	2,814	538,272	¼d.	
Waipa	282	3,584	440,240	¾d.	½d. separate, Mangapiko and Hamilton; ¾d. in Pirongia outlying districts.
Raglan	824	1,545	241,945	¾d., ¼d.	$\frac{1}{16}$d. H. and C.A.; ¼d. special Karioi loan, ¼d. separate.
Kawhia	1,515	598	*	..	
West Taupo	1,594	156	*	..	

* No local governing body raising revenue.

COUNTIES, 1897-98—*continued.*

Counties.	Area in Square Miles.	Population, Census April, 1896.	Value of Rateable Property in Counties (including Town and Road Districts, and Outlying).	Rates struck by County.	
				General.	Other.
			£		
East Taupo	2,581	232	*	..	
Rotorua	984	840	*	..	
Tauranga	577	1,622	212,278	$\frac{3}{4}$d.	$\frac{1}{10}$d. H. and C.A.; special $\frac{1}{4}$d.; $\frac{1}{8}$d. special Maketu, $\frac{1}{8}$d. Waimapu, $\frac{1}{11}$d. Katikati Ridings.
Whakatane	3,156	1,988	279,573	$\frac{3}{4}$d.	
Waiapu	1,121	447	319,928	$\frac{3}{4}$d.	$\frac{3}{4}$d. special Tokomaru and Tuakau loan.
Cook	1,950	5,287	1,816,250	$\frac{3}{4}$d.	Various, from $\frac{1}{12}$d. to $1\frac{1}{4}$d.
Clifton	1,446	1,450	227,801	1d.	
Taranaki	583	9,970	1,039,035	$\frac{3}{4}$d.	$\frac{1}{8}$d. H. and C.A.; $3\frac{1}{8}$d. special.
Stratford	768	5,141	645,166	$\frac{3}{4}$d.	$\frac{3}{4}$d. separate, East, West, and South Ridings.
Hawera	438	6,934	1,193,813	$\frac{3}{4}$d., $\frac{1}{2}$d.	$\frac{1}{4}$d. separate, Eltham, Mokoia, Okaiawa, Mangatoki Ridings; $\frac{1}{2}$d. Hawera Riding.
Patea	691	3,084	795,940	$\frac{3}{4}$d.	$\frac{3}{4}$d. separate, Kapara Riding; $1\frac{4}{16}$d. special, Kapara loan; $1\frac{1}{8}$d. Omuoa loan.
Waitotara	343	2,737	648,118	$1\frac{1}{4}$d.	$\frac{5}{16}$d., $1\frac{5}{16}$d., and $4\frac{3}{16}$d. special, on special rating districts.
Wanganui	1,942	3,095	814,058	$\frac{3}{4}$d. and $\frac{1}{4}$d.	$\frac{1}{8}$d., $\frac{1}{16}$d., special, Long Acre; $\frac{6}{16}$d. Waikupa; $\frac{7}{16}$d. Denlair Subdivisions.
Rangitikei	852	6,030	1,540,985	$\frac{7}{8}$d.	Special, various, in special rating districts.
Kiwitea	336	2,428	628,384	$\frac{3}{4}$d.	Special, $\frac{1}{8}$d. Otara, Makino, $\frac{1}{4}$d. Oroua districts; separate, $\frac{1}{4}$d. Waituna, Kimbolton, Ongo; $\frac{1}{8}$d. Makino, Hautapu; $\frac{3}{8}$d. Apiti and Rangiwahia Ridings.
Oroua	397	6,450	1,800,894	..	
Pohangina	295	1,351	294,175	$\frac{3}{4}$d.	Separate, $\frac{1}{2}$d., $\frac{3}{4}$d.; special, $1\frac{1}{16}$d., $1\frac{1}{4}$d., and $\frac{1}{8}$d.
Manawatu	267	2,709	786,052	$\frac{1}{2}$d.	Separate, $\frac{1}{4}$d. Mt. Stewart, $\frac{1}{2}$d. Sandon and Awahou, $\frac{3}{8}$d. Waitohi, Campbell, Carnarvon, and Kawakawa Ridings.

Horowhenua	591	3,792	993,366	$\frac{5}{8}$d., $\frac{3}{4}$d.	Special, various.
Wairoa	1,887	1,490	745,062	$\frac{3}{4}$d.	Special, $\frac{1}{36}$d. on whole county, and $\frac{5}{16}$d., $\frac{5}{32}$d., and $\frac{1}{64}$d. on part.
Hawke's Bay ..	3,232	6,894	3,475,584	$\frac{1}{2}$d.	
Waipawa	1,154	8,866	2,167,344	$\frac{5}{8}$d., 1$\frac{3}{8}$d.‡	Special, $\frac{3}{10}$d., 0·113d., $\frac{3}{4}$d., 0·756d., and $\frac{3}{10}$d. for interest on Government loans.
Patangata	747	2,374	1,757,625	$\frac{3}{4}$d.	$\frac{3}{8}$d. Harbour Board levy.
Pahiatua	302	3,208	898,429	1$\frac{1}{4}$d.	Various; 34 special rates.
Wairarapa North† ..	1,443	7,209	1,883,510	$\frac{3}{16}$d., $\frac{3}{4}$d., $\frac{3}{4}$d.§	Various, special and separate.
Wairarapa South ..	1,281	5,409	1,830,025	..	Separate, $\frac{1}{10}$d., H. and C.A.
Hutt	590	5,750	1,029,038	$\frac{3}{4}$d., $\frac{1}{4}$d.	Separate, $\frac{1}{2}$d.; special, $\frac{1}{3}$d., $\frac{1}{8}$d., $\frac{5}{8}$d., and $\frac{5}{16}$d.
Sounds	573	747	*	..	
Marlborough ..	3,812	6,330	1,626,620	..	
Kaikoura	673	1,575	351,316	$\frac{3}{4}$d.	
Collingwood ..	1,029	2,509	215,177	$\frac{1}{2}$d.	$\frac{1}{4}$d. special.
Waimea	1,662	8,591	1,063,774	$\frac{3}{4}$d.	$\frac{1}{5}$d. separate, H. and C.A., and $\frac{1}{10}$d. on Stoke Riding; $\frac{1}{4}$d. special in special rating district.
Buller	1,818	4,833	293,140	1$\frac{1}{2}$d.	
Inangahua	2,256	4,254	563,446	1$\frac{1}{2}$d., 1d.	
Grey	1,452	4,592	426,733	1$\frac{1}{2}$d.	$\frac{3}{8}$d. separate, H. and C.A.
Westland	4,420	4,723	178,000	1$\frac{1}{2}$d.	
Amuri	2,362	916	619,514	$\frac{1}{2}$d.	$\frac{5}{16}$d., $\frac{7}{16}$d., and $\frac{3}{4}$d., special.
Cheviot	322	1,042	503,410	1d.	$\frac{3}{16}$d. special.
Ashley	1,627	11,913	3,531,388	..	
Selwyn	2,595	30,090	6,040,090	..	$\frac{1}{7}$d. separate, H. and C.A.
Akaroa	353	3,886	1,088,445	$\frac{3}{8}$d.	$\frac{1}{4}$d. special.
Ashburton	2,542	10,820	3,465,941	$\frac{1}{4}$d.	$\frac{1}{5}$d. special.
Geraldine	949	7,499	1,645,300	$\frac{1}{3}$d.	
Levels	273	7,723	1,288,962	1d.	Maintenance Seadown Water-race, 1$\frac{1}{2}$d. per acre; $\frac{1}{4}$d. Seadown Water-race interest.
Mackenzie	2,537	1,514	735,613	$\frac{5}{8}$d.	
Waimate	1,343	4,777	2,253,902	$\frac{5}{16}$d.	$\frac{1}{8}$d., $\frac{3}{8}$d., $\frac{5}{8}$d., $\frac{7}{8}$d., 1d., separate.
Waitaki	2,333	8,876	2,325,006	$\frac{1}{2}$d.	$\frac{1}{16}$d. separate, Waiareka Riding; $\frac{3}{16}$d. Moeraki and Otepopo Ridings.

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* No local governing body raising revenue.

† New Counties of Akitio and Eketahuna cut out of Wairarapa North on 5th November, 1898.

‡ On outlying.

§ County, 3-16d.; Whareama outlying, $\frac{3}{4}$d.; Alfredton outlying district, $\frac{1}{2}$d.

COUNTIES, 1897-98—*continued.*

Counties.	Area in Square Miles.	Population, Census, April, 1896.	Value of Rateable Property in Counties (including Town and Road Districts, and Outlying).	Rates struck by County.	
				General.	Other.
			£		
Waihemo	336	2,148	377,282	⅝d.	
Waikouaiti	318	4,389	480,000	¾d.	
Peninsula	37	2,645	392,504	..	
Taieri	930	6,950	1,221,909	¾d.	Separate, ⅛d., H. and C.A.; ¾d. special, Henley Drainage District.
Bruce	503	4,828	945,572	⅜d., ¾d.†	$\frac{3}{16}$d. separate, H. and C.A.; ⅜d. Matau and Waihola Ridings; special, various.
Clutha	946	6,564	1,014,459	¾d.	$\frac{3}{16}$d. separate, H. and C.A.; special, ⅛d. Richardson Riding; ⅛d. South Molyneux; $\frac{3}{10}$d. Clinton Riding; and ⅛d. Catlin's Riding.
Tuapeka	1,365	6,477	795,340	¾d.	
Maniototo	1,239	3,742	472,541	¾d.	
Vincent	2,684	4,090	481,374	1d.	1½d. and 2½d., special.
Lake	3,712	2,663	300,582	1½d.	
Southland	3,852	21,603	3,502,545	¾d.	⅛d. separate, H. and C.A.; ⅛d. special in special rating districts.
Wallace	3,404	6,657	1,208,700	¾d.	⅛d. separate, H. and C.A.; ⅜d. separate in three ridings; $\frac{1}{20}$d. special, part Waiau Riding.
Fiord	3,040	151	..	..	
Stewart Island ..	651	244	7,132	1d.	¼d. separate, H. and C.A.
Totals ..	..	..	75,307,138*	..	

* Not including value of property in counties where thereare no local governing bodies.

† ⅜d. outlying; ¾d. road district.

SECTION IX.—LICENSES AND LICENSED HOUSES, ETC.

LICENSES AND LICENSED HOUSES.

DURING the year ended the 31st March, 1898, 2,393 licenses for the sale of intoxicating liquors were granted. Of these, 1,526 were publicans' and accommodation licenses, 9 New Zealand wine, 53 packet, 125 wholesale, and 680 conditional. The fees paid amounted to £54,000, and formed part of the revenue of the local governing bodies of the districts in which the licenses were issued. Particulars are given in the following table:—

NUMBER OF LICENSES GRANTED DURING THE YEAR 1897–98, AND THE AMOUNT OF FEES PAID TO LOCAL BODIES THEREFOR.

Licenses.	In Counties.	In Boroughs.	Total.
Publicans' licenses	615	677	1,292
Accommodation licenses	234	..	234
Total licensed houses	849	677	1,526
New Zealand wine licenses	..	9	9
Packet licenses	15	38	53
Wholesale licenses	8	117	125
Conditional licenses	495	185	680
Total licenses granted	1,367	1,026	2,393
Amount of license-fees paid to local bodies	£20,234	£33,766	£54,000

The average number of persons to each licensed house in counties and boroughs respectively, for 1897–98, is next shown:—

	Number of Licensed Houses.[*]	Estimated Population.	Average Number of Persons to each Licensed House.
Counties	849	397,830	469
Boroughs	677	329,552	487
Totals	1,526	727,382[†]	476

In 1896–97 the number of licensed houses in counties was 862, and those in boroughs 676, giving a total of 1,538 houses, or 12 more than in 1897–98. The average number of persons to a house increased from 455 in 1896–97 to 469 in 1897–98 in counties, and in boroughs the average increased from 476 to 487.

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[*] *I.e.*, houses holding publicans' or accommodation licenses.

[†] Excluding persons on shipboard and adjacent islands.

The annual fees paid for licenses are—

	£
(1.) For a publicans' license	
(*a.*) Within the limits of a borough or town district ..	40*
(*b.*) Outside the aforesaid limits	25
(2.) For a New Zealand wine license	1
(3.) For an accommodation license, a sum to be determined by the Licensing Committee, not exceeding	20
(4.) For a packet license—	
(*a.*) For a vessel exceeding 50 tons register..	10
(*b.*) For a vessel not exceeding 50 tons register	5
(5.) For a wholesale license	20
(6.) For a conditional license, according to duration of license, a sum not exceeding	30

The approximate capital value of the licensed houses in the counties was stated at £688,438, and the same for certain of the boroughs at £152,032. There was, besides, an annual value of £109,520 for other licensed houses in the boroughs, which, capitalised at 6 per cent., would represent £1,825,333. The capital value of all licensed houses would therefore be about £2,665,800.

The total number of persons engaged in or connected with the sale or manufacture of wine, spirits, beer, cordials, &c., was returned at the census of 1896 as under:—

	Males.	Females.	Persons.
Hotelkeeper	1,334	204	1,538
Relative assisting	157	348	505
Manager, clerk	67	11	78
Hotel, club, &c., servant	1,136	2,075	3,211
Manager, secretary, steward of club-house	32	3	35
Barman, barmaid	196	210	406
Wine, spirit, ale merchant	43	..	43
Assistant	5	1	6
Clerk, book-keeper, accountant, traveller, storeman	44	..	44
Cordial, &c., merchant, salesman ..	5	..	5
Brewer, bottler	234	4	238
Manager, clerk, traveller	53	..	53
Relative assisting, apprentice ..	18	..	18
Cellarman, assistant, carter, &c. ..	151	1	152
Maltster and assistants	118	..	118
Distiller, bottler	2	..	2
Wine-maker, -bottler	9	..	9
Cordial, &c., maker	293	6	299
Clerk, book-keeper, traveller ..	6	..	6
Totals	3,903	2,863	6,766

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* Between the hours of six in the morning and ten at night. For an eleven o'clock license an additional £5 must be paid.

Remarks on the high rate of mortality ruling amongst men connected with the liquor trade in respect of various diseases, as compared with the death-rate of males engaged in other occupations, will be found on page 125, in Section II., dealing with vital statistics.

LOCAL OPTION POLL.

Under "The Alcoholic Liquors Sale Control Act, 1893," each electoral district constituted for the election of a member of the House of Representatives is a licensing district, and electors for the House of Representatives are also electors under the Licensing Acts.

Under the Amendment Act of 1895 the licensing poll is taken at the same time as the general election of members of the House of Representatives. The questions for the decision of the voters are,—

(1.) Whether the number of licenses existing in the district shall continue?
(2.) Whether the number shall be reduced?
(3.) Whether any licenses whatever shall be granted?

The voter may vote for one or two of these proposals, but no more.

The method of determining the result of the poll in each district by the Returning Officer is as follows:—

(1.) If the number of votes recorded in favour of the continuance of existing licenses is an absolute majority of all the voters whose votes were recorded, the proposal is to be deemed to be carried, and the licenses continue until the next poll, subject to certain provisions in special cases.

(2.) If the number of votes recorded in favour of a reduction in the number of licenses is an absolute majority of all the voters whose votes were recorded, the proposal is deemed to be carried, and supersedes the proposal for continuance of licenses. The Licensing Committee then reduces publicans' licenses by not less than 5 per cent. or more than 25 per cent. of the total number existing, excluding forfeitures. Provision is made that when a reduction vote is carried the licenses shall be reduced by one at least when the total number does not exceed ten, two when not over twenty, and three at least when the licenses exceed thirty.

(3.) If the number of votes recorded in favour of the proposal that no license shall be granted is not less than three-fifths of all the voters whose votes were recorded, the proposal is declared to be carried, and supersedes the proposal for reduction and for continuance, and no licenses can be granted.

(4.) If none of the proposals respecting licenses are carried by the prescribed majority the licenses continue as they are until next poll, subject to certain provisions in special cases.

The result of the poll taken on 4th December, 1896, for each licensing district is as follows:—

RESULT OF LOCAL-OPTION POLL, 1896.

District.	Number on Roll.	For Continuance.	For Reduction.	For No License.	Total Number of Persons who voted at Poll.			Informal Votes.	Result of Poll.
					Men.	Women.	Total.		
Bay of Islands	3,988	1,481	834	892	1,842	770	2,612	59	Continuance carried.
Marsden	4,110	1,281	1,331	1,583	1,951	1,122	3,073	..	No proposal carried.
Waitemata	4,881	1,749	1,220	1,314	2,075	1,230	3,305	73	Continuance carried.
Eden	5,203	1,869	1,449	1,472	1,930	1,696	3,626	118	″
City of Auckland	20,204	6,269	5,317	4,783	6,730	6,304	13,034	456	No proposal carried.
Parnell	5,521	1,926	1,538	1,360	1,877	1,908	3,785	39	Continuance carried.
Manukau	5,532	1,694	1,239	1,161	1,636	1,496	3,132	..	″
Franklin	4,733	1,959	1,670	1,607	2,236	1,554	3,790	127	″
Thames	5,141	2,017	1,532	1,775	2,693	1,295	3,988	126	″
Ohinemuri	5,667	2,066	1,144	1,533	2,878	968	3,846	194	″
Waikato	3,688	1,577	901	939	1,647	1,029	2,676	73	″
Bay of Plenty	3,949	1,699	1,093	1,131	1,906	1,194	3,100	130	″
Waiapu	4,881	1,911	1,610	1,896	2,478	1,484	3,962	84	No proposal carried.
Hawke's Bay	4,746	2,162	1,210	1,524	2,450	1,424	3,874	203	Continuance carried.
Napier	5,132	2,086	1,769	1,627	2,111	1,859	3,970	150	″
Waipawa	4,387	2,010	1,093	1,444	2,294	1,417	3,711	55	″
Pahiatua	4,057	1,417	1,106	1,561	2,057	1,128	3,185	86	No proposal carried.
Masterton	4,541	1,789	1,216	1,423	2,236	1,185	3,421	..	Continuance carried.
Wairarapa	4,337	2,142	1,048	1,161	2,250	1,359	3,609	..	″
Egmont	4,146	1,553	1,251	1,527	2,182	1,134	3,316	78	″
Taranaki	5,244	2,068	1,815	2,007	2,452	1,834	4,286	..	No proposal carried.
Hawera	4,105	1,440	1,531	1,794	2,041	1,372	3,413	66	″
Patea	3,985	1,354	1,094	1,295	1,897	940	2,837	98	″
Wanganui	5,252	2,307	1,591	1,748	2,246	1,960	4,206	..	Continuance carried.
Rangitikei	5,036	2,120	1,268	1,469	2,569	1,207	3,776	134	″
Palmerston	4,599	1,701	1,255	1,274	1,809	1,347	3,156	..	″
Manawatu	4,170	1,777	1,030	1,221	1,938	1,257	3,195	..	″
Otaki	3,929	1,780	747	629	1,866	1,288	3,154	..	″
Suburbs of Wellington	5,594	2,000	1,659	1,623	2,208	1,963	4,171	270	No proposal carried.
City of Wellington	19,304	6,826	5,663	4,951	7,377	5,791	13,168	458	Continuance carried.
City of Nelson	4,523	2,120	1,316	1,020	1,976	1,752	3,728	55	″
Motueka	3,666	1,672	802	854	1,824	1,161	2,985	124	″

RESULT OF LOCAL-OPTION POLL, 1896.—*continued.*

District.	Number on Roll.	For Continuance.	For Reduction.	For No License.	Total number of Persons who voted at Poll.			Informal Votes.	Result of Poll.
					Men.	Women.	Total.		
Wairau	5,123	2,536	1,160	1,123	2,363	1,745	4,108	149	Continuance carried.
Buller	5,013	2,281	1,387	1,498	2,740	1,615	4,355	7	"
Grey	4,508	2,134	1,120	1,127	2,359	1,131	3,490	..	"
Westland	4,614	2,196	950	982	2,329	1,217	3,546	194	"
Ashley	4,059	1,936	934	1,186	2,117	1,259	3,376	..	"
Kaiapoi	4,703	2,079	1,671	1,796	2,182	1,849	4,031	..	"
Avon	4,173	1,817	986	979	1,670	1,416	3,086	115	"
City of Christchurch	18,439	8,235	5,952	5,261	7,911	7,195	15,106	572	"
Lyttelton	4,282	2,004	1,048	1,120	1,891	1,603	3,494	125	"
Riccarton	4,120	2,108	992	949	1,808	1,506	3,314	121	"
Ellesmere	3,727	1,653	1,078	1,173	1,682	1,287	2,969	..	"
Selwyn	4,059	1,837	1,102	1,164	2,056	1,128	3,184	14	"
Ashburton	4,851	2,100	1,326	1,565	2,363	1,613	3,976	203	"
Geraldine	4,354	1,938	1,100	1,422	2,045	1,530	3,575	..	"
Timaru	4,773	2,060	1,531	1,560	1,934	1,775	3,709	94	"
Waitaki	4,373	1,751	1,317	1,625	2,165	1,300	3,465	..	"
Oamaru	4,615	2,163	1,603	1,615	2,152	1,751	3,903	80	"
Waihemo	4,077	1,880	1,120	1,294	2,078	1,267	3,345	116	"
Waikouaiti	3,991	1,635	1,187	1,278	1,694	1,409	3,103	53	"
City of Dunedin	18,571	7,897	5,284	4,466	7.133	7,450	14,583	..	"
Caversham	5,559	2,726	1,542	1,264	2,197	2,252	4,449	140	"
Taieri	3,859	1,590	1,098	1,124	1,766	1,124	2,890	58	"
Bruce	4,040	1,411	1,428	1,541	1,822	1,259	3,081	74	No proposal carried.
Tuapeka	3,907	1,894	945	1,052	2,098	1,097	3,195	..	Continuance carried.
Clutha	4,644	1,618	1,630	1,989	2,283	1,444	3,727	60	No proposal carried.
Mataura	4,997	2,145	1,431	1,657	2,368	1,565	3,933	68	Continuance carried.
Wakatipu	4,046	1,973	778	940	2,174	1,001	3,175	117	"
Wallace	3,927	1,951	784	1,027	2,111	1,064	3,175	..	"
Invercargill	5,713	2,558	1,770	1,824	2,288	2,255	4,543	..	"
Awarua	3,862	1,652	959	1,113	1,794	1,128	2,922	69	"
	339,230	139,580	94,555	98,312	151,235	108,663	259,898	..	

It will thus be seen that 139,580 votes were recorded in favour of continuance of existing licenses, 94,555 for reduction, and 98,312 for no license. In fifty-two districts the majority of voters were in favour of continuance, and in ten districts none of the proposals were carried. In four of the districts—namely, Marsden, Hawera, Bruce, and Clutha—a majority of those who polled voted for prohibition, but not the necessary three-fifths required to carry that issue.

FIRE BRIGADES.

On the 31st December, 1898, there were eighty-four fire brigades in the colony, with a total strength of 1,634 (244 officers and 1,390 men). Compared with the numbers in 1897, these figures show an increase of one brigade, fourteen officers, and thirty-eight men. There is also a salvage corps in Auckland, consisting of one captain and six men, not included in the figures given above, which works in conjunction with the city and suburban fire brigades.

SECTION X.—IMPORTS: CUSTOMS AND EXCISE REVENUE.

IMPORTS.

THE quantities and values of imports used in making up the figures given in this portion of the statistical report are obtained from Customs entries, verified where necessary, as with goods subject to an *ad valorem* duty, by examination. For exports, the "free on board in New Zealand" value is given; but, as regards the main items, the Collector of Customs examines carefully the amounts stated, and compares them with current price-lists, to prevent any over-estimate. Goods transhipped at a foreign port are regarded as imported from the country where they were originally shipped, and exports as destined for the country where it is intended to land them. The countries named, however, may not be those of origin or destination, as no attempt is made to trace the goods beyond the ports disclosed by the documents presented to the Customs. Very little cargo *in transitu* passes through New Zealand.

The total declared values of the imports in 1898 amounted to £8,230,600, being an increase on the corresponding total in 1897 of £175,377. These figures, however, include specie. The value of coin brought into the colony in 1898 was £19,191, against £61,022 in the previous year, and if these items are excluded, the increase on the values of all other articles will be found to reach the sum of £217,208.

The value of imports for each of the past eleven years was:—

Year.	Imports, inclusive of Specie. £	Imports, exclusive of Specie. £
1888	5,941,900	5,430,050
1889	6,308,863	5,980,583
1890	6,260,505	5,928,625
1891	6,503,849	6,431,101
1892	6,943,056	6,742,544
1893	6,911,515	6,494,279
1894	6,788,020	5,990,177
1895	6,400,129	6,115,953
1896	7,137,320	7,035,379
1897	8,055,223	7,994,201
1898	8,230,600	8,211,409

It will be seen that the value of imports, exclusive of specie, rose from £5,430,050 in 1888 to £6,742,544 in 1892, then fell to £5,990,177 in 1894, after which there ensued a steady advance year by year to £8,211,409 in 1898. The movement for the period 1894–98 is a rise at the rate of 37 per cent. in money value, or a sum of £2,221,232. In quantities of various imports the increases vary, and full particulars of every kind of article imported in 1898 are to be found in detail further on, which may be critically examined with those in similar tables for 1897 and 1896, given in the previous Year-books.

It is desirable to consider not only the total value of the import trade for different years by comparing these figures, but to ascertain the rates *per capita* of population, to judge whether the imports are relatively greater or less than they have been. And the calculations must be made after deducting specie imported, for in the year 1894, as an instance, no less than £797,843 was brought to the colony in coin.

The figures for each year from 1888 stand thus:—

Years.	Imports per head of mean Population, excluding Maoris.					
	Including Specie.			Excluding Specie.		
	£	s.	d.	£	s.	d.
1888	9	16	4	8	19	5
1889	10	5	6	9	15	6
1890	10	0	2	9	11	0
1891	10	6	6	10	4	3
1892	10	16	3	10	9	11
1893	10	9	0	9	16	5
1894	9	19	11	8	16	5
1895	9	4	10	8	16	8
1896	10	1	11	9	19	1
1897	11	3	3	11	1	7
1898	11	3	7	11	3	1

Using the figures exclusive of the specie, it will be seen that, though comparisons for years since 1888 do not show by any means a steady rise since that year, the position is that whereas the imports proper were only £8 19s. 5d. per head of population in the first period of the table, they had increased by £2 3s. 8d. per head in 1898, and increase is observed in each year's figures since 1894, amounting to £2 6s. 8d. in the last four years.

By means of the accompanying table, in which the articles imported are arranged in groups according to their nature, the increases in value can be traced to their specific heads:—

IMPORTS FOR FIVE YEARS.

Group of Principal Articles imported.	1894.	1895.	1896.	1897.	1898.
	£	£	£	£	£
Apparel and slops ..	301,774	316,179	370,516	362,389	354,940
Boots and shoes ..	139,455	122,462	127,985	132,203	130,912
Cotton piece-goods ..	342,446	374,366	434,673	414,673	417,733
Drapery	294,800	288,995	336,839	344,539	343,820
Haberdashery ..	71,505	84,625	68,473	70,853	85,985
Hats and caps ..	46,785	54,193	58,310	63,310	66,416
Hosiery	59,237	62,237	82,984	83,796	75,736
Linen manufactures ..	43,851	48,029	57,325	57,039	56,572
Millinery	23,480	24,591	28,866	32,245	36,074
Silks	57,965	59,189	69,742	74,400	79,910
Woollens	178,668	187,782	254,580	293,449	286,911
Totals.. ..	1,559,966	1,622,648	1,890,293	1,928,896	1,935,009
Agricultural implements	3,942	4,599	6,894	11,095	17,234
Cutlery	16,913	15,658	17,384	19,636	22,722
Hardware and ironmongery	171,179	164,745	182,313	228,465	248,665
Iron rails and railway bolts, &c.	33,954	41,301	29,592	90,489	42,773
Iron, pig, wrought, wire, &c.	344,434	318,362	502,725	529,204	554,124
Steel and steel rails ..	10,164	12,152			
Machinery	156,199	131,843	251,905	368,416	422,011
Nails	27,968	25,965	32,304	33,279	36,792
Railway plant ..	8,843	5,687	3,062	46,082	57,224
Sewing-machines ..	21,797	22,166	24,641	21,542	30,618
Tools, artificers' ..	41,196	39,124	44,386	57,903	70,631
Totals ..	836,589	781,602	1,095,206	1,406,111	1,502,794
Sugar	460,071	389,609	422,134	373,407	425,270
Tea	136,986	173,343	166,860	178,350	183,717
Totals.. ..	597,057	562,952	588,994	551,757	608,987
Beer	39,393	42,676	35,123	39,614	37,844
Spirits*	153,560	164,166	160,648	178,344	187,020
Tobacco	124,757	123,843	149,905	164,889	161,836
Wine	40,412	41,109	40,879	50,202	48,514
Totals.. ..	358,122	371,794	386,555	433,049	435,214

* Includes methylated and perfumed spirits, and spirits of wine.

IMPORTS FOR FIVE YEARS—*continued.*

Group of Principal Articles imported.	1894.	1895.	1896.	1897.	1898.
	£	£	£	£	£
Paper	117,259	110,539	117,577	127,980	133,901
Printed books ..	105,597	101,958	111,344	116,485	109,961
Stationery	71,524	77,595	86,628	92,871	98,469
Totals.. ..	294,380	290,092	315,549	337,336	342,331
Bags and sacks ..	62,497	69,935	55,961	104,401	111,116
Coals	105,191	97,621	94,138	98,139	105,223
Fancy goods	71,257	71,273	89,072	100,824	103,786
Fruits (including fresh, preserved, bottled, dried)	133,829	125,250	145,016	183,133	181,447
Oils	111,654	134,913	128,138	163,793	162,523
Other imports (excluding specie)	1,859,635	1,987,873	2,246,457	2,686,762	2,722,979
Total Imports (excluding specie)	5,990,177	6,115,953	7,035,379	7,994,201	8,211,409
Specie imported ..	797,843	284,176	101,941	61,022	19,191
Total Imports ..	6,788,020	6,400,129	7,137,320	8,055,223	8,230,600

Of £8,211,409 the total value of goods imported during 1898, the chief items were as under:—

Articles.	Value. £	Proportion per Cent.
Clothing, drapery, &c.	1,935,009	23·56
Metal, machinery, and implements..	1,502,794	18·30
Tea and sugar	608,987	7·42
Wine, beer, spirits, and tobacco ..	435,214	5·30
Paper and books	342,331	4·17
Other imports	3,387,074	41·25
	8,211,409	100·00

The declared value of the clothing, drapery, &c., imported increased from £1,928,896 in 1897 to £1,935,009 in 1898. In 1894 the value of the import was £1,559,966. The iron, machinery, and implements imported in 1898 were valued at £1,502,794, an increase of £721,192 on the corresponding figures for 1895 (£781,602).

To the total value of "Other imports (excluding specie)," in 1898 (£2,722,979), shown in the table above, arms, ammunition, and explosives contributed a sum of £99,259; bicycles, tricycles, and fittings, £141,451; drugs, chemicals, and druggists' wares, £166,212; patent medicines, £36,137; manures, £112,846; musical instruments, £81,947; glass and glassware, £87,912; earthenware, £38,917; floorcloth and oilcloth, £56,167; furniture, cabinetware, and upholstery, £46,210; cement, £41,221; leather, £73,476; seeds, £78,183; and timber, £68,440.

Goods imported by means of the "Parcels Post" system during 1898 were valued at £57,627.

VALUE OF FREE AND DUTIABLE IMPORTS.

The values of the imports into New Zealand during the year 1898 are given in the next table, classified according to the duties to which they were liable, and are arranged so as to show the declared value of goods on which specific or *ad valorem* duties at various rates are payable and of those admitted free of duty :—

Duties to which Imports liable.	Value of Imports, 1898.	
	£	£
Specific duties	..	2,126,685
Ad valorem duties—		
5 per cent...	254,409	
10 per cent...	131,685	
15 per cent...	37,684	
20 per cent...	1,857,460	
22½ per cent.	131,091	
25 per cent...	775,219	
40 per cent...	37,219	
Various	2,284	
Parcels-post (various)	57,627	
		3,284,678
Duty-free (excluding specie)	..	2,800,046
Specie imported	..	19,191
Totals	..	£8,230,600

The proportions of free and dutiable goods imported during 1897 and 1898 are compared with similar figures for 1894, the year preceding that in which the altered tariff came into force :—

	1894.	1897.	1898.
Merchandise—	£	£	£
Free	1,871,772	2,675,931	2,800,046
Dutiable	4,118,405	5,318,270	5,411,363
Imports (less specie)	5,990,177	7,994,201	8,211,409
	£	£	£
Total net duty received	1,572,467	1,915,693	1,965,404
Duty, per cent. of imports—	Per Cent.	Per Cent.	Per Cent.
(*a*.) On dutiable imports	38·18	36·02	36·32
(*b*.) On all merchandise	26·25	23·95	23·94

SUGAR.

The value of sugar (including glucose, molasses, and treacle) imported in 1898 was £425,270, an increase of £51,863 on the amount for 1897 (£373,407). This import for the last three years has averaged only £406,937 per annum; but for the three years, 1882, 1883, and 1884, the average, with a much smaller population, was £615,207 for each year. The smaller average amount for the last three years is due, not to a reduction in the quantity imported, but partly to a fall in the price of sugar and partly to the fact that the proportion of refined to raw sugar has vastly decreased.

The following figures, giving the consumption per head of sugar in the Australasian Colonies, are, saving those for New Zealand—and excluding a proportion (30 lb. per head) deducted on account of Maoris—taken from Mr. Coghlan's "Seven Colonies of Australasia, 1897–98." The figures stating the consumption of tea, given further on, are taken from the same source:—

ANNUAL CONSUMPTION OF SUGAR PER HEAD IN THE AUSTRALASIAN COLONIES.

	Lb.		Lb.
Queensland	110·5	New South Wales	95·9
Western Australia	106·3	Victoria	92·9
New Zealand	98·5	Tasmania	82·9
South Australia	97·9		

TEA.

The quantity of tea entered for consumption in 1898 was 4,720,522 lb. Supposing Maoris to use, on an average, 1 lb. per head per annum, the consumption of tea per head of the population, exclusive of Maoris, would be 6·4 lb. in 1898.

ANNUAL CONSUMPTION OF TEA PER HEAD IN THE AUSTRALASIAN COLONIES.

	Lb.		Lb.
Western Australia	9·5	Victoria	7·2
Queensland	7·8	Tasmania	6·4
New South Wales	7·8	New Zealand	6·4
South Australia	7·7		

BEER, SPIRITS, AND WINE.

During 1898 excise duty was paid on 6,013,120 gallons of beer; and 191,580 gallons of beer, 491,846 gallons of spirits, and 107,595 gallons of wine were entered at the Customs for home consumption.

The actual quantity of beer made and used in the colony has increased from 4,402,720 gallons in 1885 to 6,013,120 gallons in 1898:—

BEER MANUFACTURED IN NEW ZEALAND ON WHICH EXCISE DUTY WAS PAID.

	Gal.		Gal.
1885	4,402,720	1892	4,752,720
1886	4,243,760	1893	4,873,600
1887	4,264,160	1894	4,807,360
1888	4,050,560	1895	4,936,400
1889	4,402,480	1896	5,382,960
1890	4,676,240	1897	5,741,200
1891	4,567,920	1898	6,013,120

The following table gives the consumption per head of alcoholic liquors by the people, excluding and including Maoris, showing separately the proportions of beer, wine, and spirits from 1883 to

1898. To the amount of beer manufactured in the colony in each year on which excise duty was paid has been added the amount brought into consumption from imports:—

Year.	Beer.		Spirits.		Wine.	
	Excluding Maoris.	Including Maoris.	Excluding Maoris.	Including Maoris.	Excluding Maoris.	Including Maoris.
	Gal.	Gal.	Gal.	Gal.	Gal.	Gal.
1883	9·435	8·709	1·088	1·005	0·315	0·291
1886	7·861	7·333	0·820	0·765	0·212	0·198
1889	7·624	7·136	0·598	0·560	0·176	0·165
1892	7·807	7·328	0·708	0·664	0·174	0·163
1895	7·421	6·996	0·629	0·593	0·135	0·127
1898	8·427	7·995	0·668	0·634	0·146	0·139

A comparison of the annual consumption of beer, spirits, and wine per head in the Australasian Colonies is added:—*

—	Beer.	Spirits.	Wine.	—	Beer.	Spirits.	Wine.
	Gal.	Gal.	Gal.		Gal.	Gal.	Gal.
Queensland ..	12·36	0·91	0·60	Western Australia	21·50	2·21	1·38
New South Wales	9·14	0·73	0·61	Tasmania ..	7·19	0·38	0·09
Victoria ..	11·43	0·73	1·35	New Zealand (including Maoris)	7·99	0·63	0·13
South Australia ..	9·13	0·40	1·98				

TOBACCO.

The tobacco entered for consumption in 1898 was 1,694,800 lb., and the consumption per head of population, including Maoris, 2·18 lb.

AVERAGE ANNUAL CONSUMPTION PER HEAD OF TOBACCO IN VARIOUS COUNTRIES.

	Lb.		Lb.
Holland	6·92	New Zealand	2·18
United States	4·40	Victoria	2·15
Turkey	4·37	Canada	2·11
Western Australia	4·07	France	2·05
Austria-Hungary	3·77	South Australia	1·92
Denmark	3·70	Sweden	1·87
Switzerland	3·24	Tasmania	1·80
Belgium	3·15	Spain	1·70
Germany	3·00	United Kingdom	1·41
Queensland	2·96	Italy	1·34
New South Wales	2·57	Russia	1·23

IMPORTS FROM DIFFERENT COUNTRIES.

The imports from the United Kingdom to New Zealand in 1898 were valued at £5,148,833, or a decrease of £243,905 on the imports from this source for the previous year. From British colonies and possessions the imports were £1,927,817, an increase of £264,832 on the amount in 1897.

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* See "The Seven Colonies of Australasia, 1897-98."

The following are the values of imports from different countries or places in 1897 and 1898, given in the order of the increase or decrease from each:—

Country.	1897. £	1898. £	Increase. £
United States, East Coast	521,939	700,555	178,616
Fiji	223,663	320,886	97,223
New South Wales	547,424	641,804	94,380
Victoria	290,619	332,422	41,803
Queensland	105,695	119,743	14,048
Bengal	188,676	201,843	13,167
Japan	30,155	39,476	9,321
Canada	47,303	54,434	7,131
Malden Island	9,511	14,100	4,589
Belgium	33,471	38,013	4,542
France	16,382	20,693	4,311
Tasmania	31,610	35,821	4,211
Singapore	12,122	16,303	4,181
British Columbia	13,622	17,057	3,435
South Australia	25,599	28,802	3,203
Burmah	..	2,508	2,508
Denmark	268	1,352	1,084
Hongkong	26,030	26,615	585
Sweden	5,352	5,896	544
Austria	966	1,321	355
Norfolk Island	404	750	346
Western Australia	56	273	217
Norway	22	146	124
Newfoundland	..	98	98
Bombay	30	67	37
New Brunswick	..	19	19
Russia	..	14	14
Falkland Islands	2	4	2
Natal	6	7	1

Country.	1897. £	1898. £	Decrease. £
United Kingdom	5,392,738	5,148,833	243,905
Mauritius	25,564	..	25,564
China	17,360	6,301	11,059
Pacific Islands	50,015	43,450	6,565
United States, West Coast	106,105	99,856	6,249
Holland	15,398	10,780	4,618
Germany	157,066	153,102	3,964
Philippine Islands	9,018	5,251	3,767
Greece	8,590	6,077	2,513
Switzerland	5,403	3,756	1,647
West Indies	1,862	423	1,439
Asia Minor	9,996	9,043	953
Italy	5,423	4,519	904
Madras	771	385	386
Ceylon	114,147	113,813	334
Egypt	611	301	310
Portugal	2,347	2,154	193
Spain	1,625	1,453	172
Canary Islands	73	15	58
Malta	54	..	54
Java	48	1	47
Cape Colony	77	63	14
South African Republic	4	2	2
Argentine Republic	1	..	1

IMPORTS, BY PROVINCIAL DISTRICTS.

The values of imports in each provincial district during 1890 and 1898 were as under:—

	1890. £	1898. £
Auckland	1,406,477	2,228,386
Taranaki	24,575	69,265
Hawke's Bay	162,097	181,486
Wellington	1,282,821	2,071,184
Marlborough	19,547	12,053
Nelson	151,422	152,897
Westland	93,426	53,082
Canterbury	1,269,572	1,471,504
Otago	1,836,754	1,933,116

The value of imports by parcel-post (£13,834 in 1890 and £57,627 in 1898) must be added to the above figures in order to make up the totals (including specie) of £6,260,525 and £8,230,600 for the respective years.

IMPORTS, NORTH AND MIDDLE ISLANDS.

Separating the value of the imports for the North Island from that of the Middle Island, it is found that whereas in 1890 the former received imported goods to the value of £2,875,970, against £3,370,721 for the Middle Island, in the year 1898 the North Island imports far exceeded those of the other, the values being respectively £4,550,321 and £3,622,652, or an excess for the North of 25·61 per cent.

DETAILS OF ALL ARTICLES OF IMPORT.

Details of all imports for 1898, giving quantities and values of articles introduced into the colony, with the amounts entered for Home consumption, and the amount of duty received, are next shown:—

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING THE YEAR 1898.

(For rates of Duty, see Tariff, p. 66.)

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Acid—		£		£ s. d.
Acetic	209,230 lb.	2,562	286,975 lb.	1,793 11 10
Carbolic	34,057 „	613	..	..
Salicylic	1,987 „	209	..	..
Sulphuric	281,904 „	2,301	..	..
Tartaric	72,772 „	4,147	60,222 lb.	250 18 6
Unenumerated ..	95,071 „	1,640	..	..
Alkali—				
Potash and caustic potash	1,716 cwt.	2,033	..	..
Soda ash	11,781 „	3,883	..	..
Soda, carbonate and bicarbonate	9,601 „	4,024	9,846 cwt.	492 5 10
Soda, caustic	12,516 „	7,457	..	..
Soda, crystals	78 „	26	96 cwt.	9 11 9
Soda, silicate	3,614 „	1,364	..	..
Unenumerated ..	4,342 „	2,278	..	..

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.		
		£		£	s.	d.
Alum	1,166 cwt.	454	..	..		
Animals, Living—						
Birds	167 No.	263	..	..		
Cattle, horned	26 „	2,191	26 No.	13	0	0
Dogs	111 „	607	..	..		
Horses	560 „	13,330	553 No.	553	0	0
„	3 „	400	..	..		
Lions (cubs)	2 „	10	..	..		
Opossums	129 „	129	..	..		
Pigs	4 „	111	..	..		
Poultry	142 „	275	..	..		
Sheep	157 „	1,994	..	..		
Turtles	3 „	3	..	..		
Apparel and slops n.o.e.	..	353,258	£354,121	88,530	3	0
„	..	448	..	..		
Apparel made to the order of residents in the colony	..	1,366	£1,323	529	3	7
Arms, ammunition, and explosives—						
Accoutrements	..	812	..	..		
Caps, percussion	5,799,800 No.	901	..	..		
Cartridges, shot, 10- to 24-bore	3,698,825 „	11,705	3,692,200 No.	2,769	3	6
Cartridges n.o.e.	4,292,968 „	3,219	£3,216	643	3	7
„	1,023,500 „	6,614	..	..		
Cartridge-cases	555,380 „	814	553,700 No.	207	12	7
Detonators for dynamite	1,571,990 „	3,108	..	..		
Dynamite	139,100 lb.	11,277	..	..		
Firearms	4,111 No.	8,071	£7,823	1,564	12	5
„	4,594 „	11,910	..	..		
Fuse	157,826 coils	4,511	..	..		
„	900 „	307	..	..		
Ordnance stores	..	3,478	..	..		
„	..	965	..	..		
Powder, blasting	334,000 lb.	7,506	..	..		
Powder, sporting	31,217	3,558	29,717 lb.	742	18	6
„	6,000 „	312	..	..		
Shot	399 cwt.	403	399 cwt.	199	11	1
Swords	60 No.	157	..	..		
Other explosives	250,950 lb.	19,040	..	..		
Unenumerated	..	1,191	..	..		
Asphalt	53 cwt.	36	..	..		
Bacon and hams	5,429 lb.	180	5,380 lb.	44	16	8
„	1,944 „	83	..	..		
Bags and sacks—						
Cornsacks	512,326 doz.	106,711	..	..		
Unenumerated	10,564 „	392	£409	81	16	0
„	14 „	5	£2	0	7	0
„	26,254 „	4,008	..	..		
Bagging and sacking	..	23	£23	3	9	0
„	..	210	..	..		
Basket and wickerware	..	1,827	£1,819	363	16	0
Beer	161,534 galls.	37,844	191,567 galls.	19,156	14	2

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Belting, leather	35,781 lb.	4,055	35,759 lb.	595 19 8
"	290 lb.	33	..	..
Belting, other than leather	..	12,910	..	..
Beverages, non-alcoholic—				
Aerated and mineral waters	3,705 doz.	810	£866	173 3 10
Coffee, essence ..	..	5,124	£5,324	1,064 14 1
Limejuice, sweetened ..	2,460 galls.	538	£609	152 2 7
" unsweetened	32,439 "	3,139	..	..
Unenumerated ..	..	463	£501	125 5 0
Bicycles and tricycles ..	8,012 No.	76,196	£79,068	15,813 13 7
" ..	1 "	9	..	..
Materials for ..	..	33,573	£33,860	6,772 1 9
Unenumerated ..	..	31,673	..	..
Biscuits—				
Fancy, and other kinds..	15,795 lb.	652	15,426 lb.	128 11 0
Ships', plain	28 cwt.	36	26 cwt.	3 19 0
Blacking	..	3,260	£3,236	647 2 1
"	..	9	..	..
Blacklead	..	2,395	£2,681	536 3 7
Blue	192,735 lb.	5,388	153,312 lb.	1,277 12 0
Boats	19 No.	835	..	..
Bones	2,096 tons	8,916	..	..
Books, printed	..	109,961	..	..
Boots and shoes	63,224 doz.prs	122,371	£122,351	27,528 19 0
Nos. 0 to 3	2,567 "	1,877	..	..
Gum-boots	653 "	6,664	..	..
Borax	1,551 cwt.	1,673	..	..
Brass—				
Pigs, bars, tubes, or sheets	738 "	2,801	..	..
Tubing and stamped-work in the rough ..	105 "	441	..	..
Manufactures	..	6,486	£6,484	1,296 17 5
"	..	88	..	..
Bricks—				
Building	80,600 No.	421	..	..
Fire	79,382 "	300	£300	60 0 0
"	2,500 "	12	..	..
Other kinds	18,406 "	87	..	..
Brushware and brooms—				
Brooms	3,363 doz.	1,602	£1,647	411 16 9
Brushes (clothes, hair, hat, and toilet) ..	..	3,476	£3,461	692 2 2
Unenumerated ..	..	5,803	£5,920	1,480 0 8
" ..	..	53	..	..
Materials for	..	4,369	..	..
Buckets and tubs—				
Iron	3,300 doz.	1,727	£1,722	430 7 10
Wood	141 "	67	£67	13 8 0
Building materials, unenumerated	..	184	..	..
Butter	753 cwt.	4,035	..	..
Candles	1,767,368 lb.	26,719	1,796,695 lb.	14,972 9 3

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.		
		£		£	s.	d.
Canes and rattans	..	1,127	..	..		
Canvas	..	31,356	..	..		
Caramel, brewers' ..	12,972 lb.	210	9,477 lb.	118	9	3
Cards, playing	38,261 packs	749	44,669 packs	1,116	14	6
Carpeting and druggeting ..	..	30,897	£30,794	6,158	15	3
Carriages, &c.—						
Carriages	108 No.	2,106	£2,436	487	4	7
Carts, drays, and wagons	111 „	877	£742	148	8	0
Perambulators and go-carts	64 „	104	£104	20	16	0
Materials for	..	3,992	£4,307	861	7	7
„	..	13,259	..	..		
Axles, axle-arms, and boxes	..	8,410	..	..		
Carriage and cart shafts, spokes, and felloes in the rough	..	7,150	..	..		
Cases, empty	2,281 No.	1,715	£1,716	343	4	0
„	115 „	75	..	..		
Cement	83,292 barrels	39,514	83,167 barrels	8,316	14	0
„	3,502 „	1,707	..	..		
Chains and chain-cables ..	8,228 cwt.	5,044	..	..		
Charcoal	12,164 „	2,008	..	..		
Cheese	4 „	17	£17	3	8	0
„	8 „	41	..	..		
Chicory	323 lb.	13	323 lb.	4	0	8
„	504 „	7	..	..		
China, porcelain, and parian-ware	..	16,029	£16,077	3,215	6	2
Ditto	..	608	..	..		
Clocks	35,298 No.	10,251	£10,209	2,041	16	1
„	89 „	125	..	..		
Coals	115,427 tons	105,223	..	..		
Cocoa and chocolate ..	252,632 lb.	26,412	256,269 lb.	3,208	7	4
Cocoa-beans	44,342 „	1,684	..	..		
Coffee—						
Raw	274,100 „	11,190	264,198 „	2,201	13	0
Roasted	3,224 „	161	2,598 „	54	2	4
Coke	1,210 tons	2,960	..			
Combs	..	1,539	£1,536	307	4	2
Confectionery—						
Chocolate confectionery: plain trade packages ..	98,203 lb.	4,686	96,776 lb.	1,209	13	11
Chocolate confectionery: fancy packages ..	..	4,129	£4,024	804	14	11
Unenumerated ..	364,196 „	11,735	354,371 lb.	2,953	1	9
Copper—						
Nails	239 cwt.	945	..	..		
Pig, bar, sheet, and tube	3,576 „	11,715	..	..		
Rod and bolt	83 „	239	..	..		
Sheathing	533 „	1,406	..	..		
Copper manufactures ..	..	593	£593	118	12	0
Copra	828 tons	8,085	..	..		
Cordage	3,635 cwt.	8,819	£8,787	1,757	7	8

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.		
		£		£	s.	d.
Cordage	10 cwt.	11	..	..		
Hawsers of 12 in. and over	132 "	157	..	..		
Iron and steel	7,306 "	13,460	..	..		
Cork, cut	..	5,804	£5,750	1,150	0	3
Cotton piece-goods—						
Butter- and cheese-cloth	..	2,159	..	..		
Calico, white and grey ..	..	121,817	..	..		
Corduroy, moleskin, and beaver-skin	..	10,009	..	..		
Leather-cloth	..	4,576	..	..		
Shirtings, coloured cotton	..	30,525	..	..		
" flannelette ..	..	6,634	..	..		
" union, of 6d. per yard and under ..	..	4,074	..	..		
Tubular woven cotton cloth	..	6,434	..	..		
Waterproof material ..	..	29,454	..	..		
Unenumerated ..	..	98,738	£98,249	19,649	14	9
" ..	..	103,313	£102,054	10,205	8	11
Cotton—						
Raw	9,729 lb.	135	..	..		
Waste	2,611 cwt.	3,547	..	..		
Wick	78,941 lb.	3,114	..	..		
Cutlery	..	22,722	£23,047	4,609	6	7
Doors—						
Plain	5 No.	3	5 No	0	10	0
Glazed with ornamental glass	1 "	2	1 "	0	4	0
Drapery	..	215,133	£215,015	43,002	18	7
Lace and laces n.o.e. ..	..	28,884	£28,703	7,175	13	8
Ribbons and crape ..	..	17,073	£17,074	4,268	10	7
Tailors' trimmings ..	..	82,730	..	..		
Drugs, chemicals, and druggists' wares—						
Baking powder, yeast preparations, &c. ..	..	506	£449	89	16	0
Chemicals, unenumerated	..	3,317	£3,195	639	1	7
" ..	..	1	..	..		
Cream of tartar ..	601,985 lb.	23,272	630,884 lb.	2,628	13	8
Drugs, druggists' sundries, and apothecaries' wares	..	58,841	£58,124	11,624	17	0
Tinctures and medicinal spirits	22,194 lb.	1,392	25,462 lb.	1,273	2	0
Ditto	5,047 lb.	341	5 845	146	2	3
Anhydrous ammonia ..	..	1,198	..	..		
Arsenic	1,660 cwt.	1,978	..	..		
Disinfectants	..	2,523	..	..		
Food preservative ..	..	1,790	..	..		
Gums	..	1,824	..	..		
Insecticides and tree-washes	..	1,468	..	..		
Maltine	..	642	..	..		
Medicinal barks, leaves, &c.	..	932	..	..		

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.		
Drugs, chemicals, and druggists' wares—*continued.*		£		£	s.	d.
Phosphorus	..	1,423	..	..		
Potassium cyanide ..	5,276 cwt.	31,437	..	..		
Sheep-dip	..	21,961	..	..		
Sheep- and horse-drenches and sheep-licks ..	..	468	..	..		
Unenumerated ..	..	10,898	..	..		
Dyes	..	14,175	..	..		
Earthenware	..	38,785	£38,846	7,769	2	0
"	..	132	..	..		
Eggs	5 doz.	3	..	..		
Engine-packing	1,518 cwt.	5,038	..	..		
Essences, flavouring—						
Spirituous	1,360 gals.	3,648	1,340 gals.	1,071	18	11
Unenumerated ..	..	257	£205	30	16	9
Essential oils—						
Eucalyptus	7,110 lb.	1,913	£1,925	385	0	0
Other kinds	28,158 "	4,590	..	..		
Fancy goods	..	100,840	£100,743	20,148	11	0
" ..	..	2,946	..	..		
Felt sheathing	..	3,737	..	..		
Fire-engines	16 No.	426	..	..		
Fire-hose and other appliances	..	1,521	..	..		
Fireworks	..	638	£622	124	6	11
"	..	108	..	..		
Fish—						
Anchovies, salted ..	6 cwt.	27	..	..		
Dried, pickled, and salted	2,308 "	3,846	2,290 cwt.	1,145	2	6
Ova	..	50	..	..		
Potted and preserved ..	1,274,163 lb.	27,611	1,278,321 lb.	10,652	13	6
Ditto	2,832 "	104	..	..		
Fishing tackle—						
Artificial flies	..	251	£251	62	15	0
Fish-hooks	..	603	..	..		
Unenumerated ..	..	2,875	£2,674	534	14	0
Flock	93 cwt.	98	£98	9	16	0
Floorcloth and oilcloth ..	..	55,994	£55,932	11,186	9	6
" ..	..	173	..	..		
Flour	10,633 centals	4,989	10,531 centals	526	11	2
Foods, animal—						
Chaff	16 tons	66	16 tons	15	12	0
Unenumerated ..	..	2,089	£2,144	428	14	1
Foods, farinaceous—						
Arrowroot	98,740 lb.	1,305	..	..		
Macaroni and vermicelli	81,702 "	1,066	..	..		
Maizena and corn-flour..	820,972 "	10,138	808,836 lb.	842	10	9
Sago and tapioca ..	16,904 cwt.	8,830	..	..		
Unenumerated ..	..	2,473	..	..		
Fruits, bottled and preserved	38,110 doz.	9,641	£9,617	2,404	3	3
Fruits, dried—						
Currants	2,507,130 lb.	22,250	2,661,343 lb.	22,177	17	3
Raisins	1,932,925 "	31,050	1,846,218 "	15,385	3	1

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Fruits, dried—*continued.*		£		£ s. d.
Unenumerated ..	923,749 lb.	13,666	946,394 lb.	7,886 12 4
Fruit, fresh—				
Apples, pears, plums, &c.	716,391 "	10,073	716,391 "	2,984 19 3
Apples and pears ..	666,854 "	7,093	666,854 "	1,389 5 7
Currants, raspberries, &c.	64,726 "	925	64,726 "	134 16 11
Lemons	383,164 "	4,231	383,164 "	798 5 2
"	600 "	7	..	..
Other kinds	18,821,511 "	79,845	..	..
Lemon- and orange-peel, in brine	204,911 "	1,524	..	..
Preserved by sulphurous acid	56,260 lb.	1,001	56,260 lb.	234 8 4
Pulp and partially-preserved fruit	6,608 "	141	6,283 "	39 5 4
Fungus	175 cwt.	222	..	..
Furniture, cabinetware, and upholstery	..	31,155	£30,071	7,517 17 5
Ditto	..	21	..	..
Kapok	3,407 cwt.	10,140	..	..
Unenumerated ..	..	4,894	..	..
Furniture-, knife-, and plate-powder and polish	..	4,059	£3,788	757 10 0
Furs	..	3,982	£3,962	990 10 0
Gelatine and isinglass ..	53,703 lb.	4,594	£4,455	890 19 0
Glass—				
Bottles, empty ..	..	26,506	..	..
Mirrors and looking-glasses	..	4,568	£4,559	1,139 15 0
Plate, bevelled, &c. ..	..	4,310	£4,281	1,070 5 0
Plate, other kinds ..	211,838 sup. ft.	6,595	£6,501	1,300 5 11
Window	2,349,365 "	15,407	2,348,800 sup. ft.	2,348 17 0
Glassware	..	26,669	£26,671	5,334 5 7
"	..	3,857	..	..
Glue and size	66,400 lb.	1,410	67,287 lb.	420 10 10
"	1,476 "	77	..	..
Gold-leaf	..	726	..	..
Grain and pulse—				
Barley	15,861 centals	6,438	15,810 centals	1,580 19 9
Beans and peas ..	986 "	600	984 "	36 18 0
" ..	31 "	27	..	..
Oats	119 "	53	119 "	4 9 2
Wheat	36,496 "	11,955	36,481 "	1,368 1 0
"	20 "	12	..	..
Unenumerated ..	5,411 "	2,418	5,439 "	203 19 11
" ..	178 "	47	..	..
Ground, unenumerated ..	7,719 "	5,342	7,151 "	357 11 1
" ..	233 "	114	..	..
Grease	2,900 cwt.	2,117	£2,108	421 13 0
"	14 "	35	..	..
Grindery—				
Heel-plates	..	672	£709	159 10 6
Unenumerated ..	..	16,682	..	..
Haberdashery	..	15,396	£15,377	3,075 9 8

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.		
Haberdashery—*continued.*		£		£	s.	d.
Buttons, &c.	..	22,279	..	..		
Sewing-cottons, silks, and threads	..	45,501	..	..		
Unenumerated	..	2,809	..	..		
Hair	353 cwt.	1,440	..	..		
Hardware, holloware, and ironmongery	..	200,303	£199,458	39,891	10	5
Ditto	..	7,842	..	..		
Coffin furniture	..	1,395	£1,096	219	4	0
Hats and caps	71,737 doz.	66,372	£66,094	16,523	9	8
„	35 „	44	..	..		
Hatters' materials	..	4,483	..	..		
Hemp	131 tons	2,585	..	..		
Hides	4,493 No.	3,997	..	..		
Honey	695 lb.	11	1,559 lb.	12	19	10
Hops	186,222 „	7,527	149,232 „	3,730	16	3
„	150 „	8	.. „	..		
Hosiery	..	75,736	£75,693	15,138	14	8
Indiarubber and gutta-percha goods	..	2	£2	0	8	0
Ditto	..	9,337	..	..		
Ink—						
Printing	127,293 lb.	4,032	..	..		
Writing	..	1,442	£1,442	288	8	0
„	..	193	..	..		
Instruments, musical—						
Harmoniums and organs	809 No.	7,387	£7,502	1,500	9	1
Pianofortes	2,907 „	63,517	£63,130	12,626	0	5
Unenumerated	..	9,325	£8,968	1,793	11	6
„	..	191	..	..		
Materials for	..	82	£77	15	8	0
„	..	1,445	..	..		
Instruments, other kinds—						
Optical	..	2,264	..	..		
Scientific	..	4,534	..	..		
Surgical and dental	..	14,877	..	..		
Surveying	..	659	..	..		
Unenumerated	..	3,402	..	..		
Iron and steel—						
Angle	372 tons	3,102	..	..		
Bar, bolt, and rod	10,380 „	87,918	..	..		
Bolts and nuts	3,078 cwt.	2,935	£2,856	571	3	6
„	6,923 „	8,028	..	..		
Castings for ships	24 tons	1,411	..	..		
Galvanised manufactures	..	1,147	£1,142	285	7	10
Hoop	1,307 „	12,046	..	..		
Hoop, galvanised	2,212 cwt.	1,546	2,211 cwt.	165	15	10
Pig	6,470 tons	23,647	..	..		
Pipes and fittings	5,395 „	56,086	£56,071	2,803	10	10
„	7 „	86	..	..		
Rails	6,550 „	37,720	..	..		
Railway bolts and fastenings	8 „	79	£79	15	16	0

General Imports into the Colony of New Zealand during 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Iron and steel—*continued.*		£		£ s. d.
Railway bolts and fastenings	346 tons	4,974	..	..
Sheet and plate ..	4,832 "	42,003	..	..
Sheet, galvanised, corrugated	187,124 cwt.	136,789	185,728 cwt.	18,572 16 4
Ditto	140 "	147	..	..
Sheet, galvanised, plain	29,348 "	22,397	29,285 "	2,196 7 8
Staples and standards ..	447 tons	4,976	£4,818	963 13 10
Tanks	2,654 No.	7,386	2,648 No.	1,324 0 0
"	609 "	1,173	610 "	152 10 0
Wire, fencing, barbed ..	4,024 tons	41,940	..	..
Wire, fencing, plain ..	8,428 "	71,044	..	..
Wire, telegraphic and telephonic	101 "	1,206	..	..
Wire-netting	..	18,860	..	..
Wire, unenumerated ..	432 tons	6,016	..	..
Unenumerated ..	742 "	2,235	..	..
Jams, jellies, and preserves	375,199 lb.	6,023	368,947 lb.	3,074 11 3
Jellies, concentrated ..	37,084 "	1,480	36,678 "	611 5 11
Jewellery	..	18,007	£17,992	3,598 9 4
"	..	459	..	..
Lamps, lanterns, and lamp-wick	..	14,809	£15,308	3,061 14 0
Ditto	..	182	..	..
Lead—				
Pigs and bars	502 tons	7,212	..	..
Pipe (including composition)	550 cwt.	549	524 cwt.	91 13 3
Ditto	30 "	28	..	..
Sheet	15,761 "	12,517	15,692 "	1,176 17 7
"	801 "	836	..	..
Manufactures	..	99	£99	19 16 0
Leather	401,924 lb.	53,937	404,576 lb.	2,802 2 1
"	90,522 "	10,437	..	..
" chamois	..	530	£528	105 11 9
" "	..	22	..	..
Leather manufactures—				
Boot and shoe vamps, uppers, and laces ..	..	7,597	£7,512	1,690 3 0
Unenumerated ..	..	451	£489	110 0 6
" ..	..	502	£499	99 16 0
Linen piece-goods—				
Forfar, dowlas, and flax sheeting n.o.e. ..	..	14,673	£1,672	334 9 0
Ditto	..	25	..	..
Forfar, dowlas, &c., cut up under supervision ..	..	..	£10,521	..
Hessians and scrim ..	..	27,293	..	..
Unenumerated ..	..	14,581	£14,419	2,883 16 3
Linseed	383 tons	3,943	7,658 cwt.	382 17 8
Liquorice	..	2,573	£2,533	506 13 9
Machinery and machines—				
Agricultural	..	21,681	£19,693	984 12 9

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1896—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.		
Machinery, &c.—*continued.*		£		£	s.	d.
Agricultural	..	59,508	..	..		
Ploughs and harrows	..	17,234	..	..		
Dairying	..	5,170	£5,554	277	14	5
"	..	9,160	..	..		
Dredging	..	7,511	£7,411	370	11	0
Electric	..	14,320	£14,593	1,459	5	2
"	..	24,009	..	..		
Engines, steam	26 No.	4,450	£4,372	874	8	0
" gas	153 "	12,729	..	..		
Engines, boilers for	37 "	3,332	£3,110	622	0	0
Flour-milling	..	4,402	£4,432	221	11	10
Gas making	..	10,622	£10,355	1,035	11	0
"	..	10,903	..	..		
Mining	..	71,628	£72,061	3,603	1	0
"	..	3,477	..	..		
Paper-milling	..	103	£103	5	3	0
"	..	88	..	..		
Portable and traction engines	38 No.	14,424	£14,424	721	3	10
Printing	..	32,828	£32,836	1,641	16	0
"	..	488	..	..		
Refrigerating	..	23,226	£22,603	1,130	2	8
Sewing and knitting	8,874 No.	30,618	..	..		
Wood-working	..	6,004	£5,975	298	15	6
"	..	1,842	..	..		
Woollen-milling	..	7,696	£7,585	379	5	0
"	..	855	..	..		
Unenumerated	..	34,771	£29,104	5,820	15	4
"	..	9,365	..	..		
"	..	6,982	£7,127	522	18	9
Materials for and parts of	..	2,284	£1,931	250	8	0
" "	..	18,153	..	..		
Malt	1,978 bush.	763	1,981 bush.	198	2	0
Rice malt	27,511 lb.	224	27,511 lb.	114	12	7
Manures—						
Bone-dust	7,739 tons	37,781	..	..		
Guano	13,537 "	41,900	..	..		
Unenumerated	8,785 "	33,165	..	..		
Marble—						
Dressed or polished, and manufactures	..	3,541	£3,645	911	4	5
Hewn, or rough-hewn	220 tons	1,503	..	..		
Matches and vestas—						
Wax	18,050 gross	3,353	19,819 gross	2,305	5	3
Wooden	19,504 gross	1,862	17,303 "	904	3	2
Mats and matting	..	6,642	£6,615	1,323	0	0
"	..	237	..	..		
Meats—						
Potted and preserved	39,173 lb.	1,713	£1,811	362	2	11
"	9,064 "	186	..	..		
Medicines, patent and proprietary	..	35,853	£36,938	14,775	1	4
Ditto	..	72	..	..		

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Medicines—*continued.*		£		£ s. d.
Sarsaparilla	..	212	£136	34 0 0
Metal, manufactures of ..	..	8,278	£8,292	1,658 7 3
"	..	1,027	..	..
Japanned and lacquered metalware	..	1,589	£1,569	392 4 5
Weighbridges and weighing-machines ..	..	2,321	£2,317	463 9 0
Ditto	..	247	..	..
Anchors	562 No.	376	..	..
Rivets and washers ..	6,426 cwt.	5,482	..	..
Tacks	1,551 "	2,313	..	..
Type-writers	413 No.	4,475	..	..
Unenumerated ..	..	32,008	..	..
Metal sheathing, other than copper	473 cwt.	1,402	..	..
Milk, preserved	660,104 lb.	12,599	£14,025	3,506 3 5
"	6,121 "	132	..	..
Millinery—				
Feathers, ornamental ..	..	7,889	£7,935	1,983 13 1
Other kinds	..	28,185	£28,122	7,030 11 11
Mustard	186,587 lb.	10,248	189,173 lb.	1,576 8 10
Nails—				
Iron	62,757 cwt.	36,681	62,267 cwt.	6,226 13 1
Unenumerated ..	49 "	111	52 "	7 14 6
Naphtha	11,985 galls.	1,509	12,354 galls.	308 16 10
Nuts—				
Almonds, in shell ..	25,561 lb.	435	24,432 lb.	203 11 11
Almonds, shelled ..	27,196 "	1,509	26,576 "	332 4 1
Almonds, Barbary, &c. ..	55,701 "	2,075	..	..
Cocoa	180,867 No.	573	..	..
Unenumerated ..	51,490 lb.	604	52,945 lb.	441 4 2
Oakum	450 cwt.	614	..	..
Oars	2,356 No.	335	..	..
Oils—				
Castor, bulk	91,108 galls.	11,163	88,790 galls.	2,219 15 0
"	5,601 "	755	..	..
Castor, bottled ..	1,939 doz. pts	626	£541	81 4 2
Cod liver	6,541 galls.	1,353	..	..
Colza	15,380 "	1,850	14,179 galls.	354 9 8
"	2,040 "	299	..	..
Fish, penguin, and seal	59,255 "	4,781	..	..
Linseed	185,876 "	17,457	179,185 galls.	4,479 12 6
"	6,000 "	576	..	..
Mineral, kerosene ..	2,610,059 "	90,525	2,372,800 galls.	59,320 0 1
Mineral, other kinds ..	116,874 "	9,869	112,483 "	2,812 1 6
" ..	33,548 "	1,910	..	..
Neatsfoot	2,315 "	237	2,315 "	57 17
Olive, bulk	14,223 "	2,208	12,447 "	311 3 9
Olive, bottled	4,213 doz. pts	1,805	£1,783	267 10 1
Whale	1,578 galls.	118	..	..
Unenumerated, bulk ..	123,044 "	10,343	115,021 galls.	2,875 10 6
" ..	14,508 "	1,185	..	..
Unenumerated, bottled	4,391 doz. pts	1,843	£2,048	307 4 11

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.		
Oils—*continued.*		£		£	s.	d.
Unenumerated	82,200 galls.	3,620	..	..		
Oilmen's stores	..	5,921	£5,650	1,130	0	2
Onions	11,125 cwt.	5,014	11,013 cwt.	550	13	4
Opium	3,003 lb.	4,723	2,750 lb.	5,501	9	0
Paints and colours—						
Ground in oil	28,683 cwt.	33,596	27,513 cwt.	3,439	3	7
„	468 „	506	..	..		
Mixed, ready for use	5,227 „	12,996	5,049 cwt.	1,262	6	7
Unenumerated	9,494 „	9,890	..	..		
Paper—						
Bags, coarse	149 „	129	172 cwt.	64	6	3
Bags, other kinds	2,499 „	4,364	£4,273	1,068	5	9
Butter-paper	2,356 „	4,844	..	..		
Hangings	996,260 pieces	24,228	£24,284	3,642	12	10
Printing	82,755 cwt.	78,234	..	..		
Wrapping	4,318 „	4,805	£4,072	1,018	0	8
„	62 „	77	..	..		
Writing	8,735 „	16,271	..	..		
Unenumerated	549 „	949	..	..		
Pearl barley	2,846 „	2,075	2,846 cwt.	142	5	8
Peas, split	924 „	452	923 „	92	6	6
Peel, candied and dried	10,745 lb.	266	11,120 lb.	139	0	0
Perfumery—						
Perfumed spirits	1,454 galls.	5,325	1,357 galls.	2,034	16	4
Toilet preparations	..	5,848	£5,740	1,434	18	2
Unenumerated	..	1,731	£1,777	444	5	0
Photographic goods (including chemicals)	..	3,136	£3,095	619	0	0
Ditto	..	247	..	..		
Copper, glass, and zinc plates for photo-lithographic work	..	606	..	..		
Photographic cameras and lenses	..	3,937	..	..		
Sensitised surfaces for photographic purposes	..	7,794	..	..		
Pickles	6,539 galls.	1,617	5,681 galls.	852	2	4
Pictures, paintings, drawings, engravings, and photographs	..	2,708	£2,730	545	18	6
Ditto	..	218	..	..		
Family portraits	..	29	..	..		
For museums	..	740	..	..		
Picture-frames and mounts	..	1,521	£1,522	304	7	0
Pitch	842 cwt.	477	..	..		
Plants, shrubs, &c.	..	2,564	..	..		
Plaster of Paris	2,564 cwt.	760	..	..		
Plate and plated ware	..	26,793	£26,519	5,303	15	3
Portmanteaux and travelling bags	..	3,989	£3,985	996	5	9
Leather bags and leather-cloth bags	..	135	£146	29	5	11
Potatoes	59 tons	437	£437	87	8	0

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Potatoes	71 cwt.	40	..	..
Printing materials—				
Stereotypes and matrices	..	40	£40	10 0 0
"	..	10	..	..
Type and materials, n.o.e.	..	10,060	..	..
Provisions n.o.e.	..	5,281	£5,232	1,046 9 1
"	..	13	..	..
Pumps	..	3,741	£3,235	647 0 2
"	..	108	..	..
Putty	4,852 cwt.	2,016	4,896 cwt.	489 11 6
Quicksilver	14,260 lb.	1,525	..	..
Rags	93 tcns	402	..	..
Railway plant—				
Locomotives	22 No.	38,586	..	..
Unenumerated	..	99	£99	19 16 0
"	..	18,539	..	..
Resin	14,763 cwt.	4,216	..	..
Rice	59,660 "	43,366	57,745 cwt.	16,204 12 11
Rugs, all kinds	..	9,607	£9,762	1,952 6 8
Saccharine	3,239 ozs.	397	3,076 oz.	230 14 0
Saddlery and harness (including whips)	..	22,746	£22,705	4,541 1 7
Ditto	..	6	..	..
Collar-check	..	2,863	..	..
Harness-oil, composition, and leather-dressing	..	2,337	£2,332	466 8 0
Saddlers' ironmongery	..	15,817	..	..
Salt	9,706 tons	22,773	9,697 tons	4,848 14 11
Rock	588 "	1,483	..	..
Saltpetre	99 "	1,895	..	..
Sashes, glazed	1 pair	3	1 pair	0 4 0
Sauces	11,871 galls.	8,227	11,306 galls.	2,261 5 4
Sausage-skins	253,222 lb.	8,865	144,714 lb.	1,808 18 8
Seeds—				
Grass and clover	31,355 cwt.	59,774	..	..
Unenumerated	..	18,409	..	..
Shale	151 tons	524	..	..
Shells	331 cwt.	1,044	..	..
Ship-chandlery, n.o.e	..	3,157	..	..
Silks, &c.	..	79,910	£79,584	19,895 17 11
For flour-dressing	..	110	..	..
Silver	611 oz.	96	..	..
Skins and pelts—				
Fur-skins	7,061 No.	208	..	..
Kangaroo and wallabi skins	16,421 "	684	..	..
Unenumerated	8,566 "	426	..	..
Slates, roofing	271,604 "	2,258	..	..
Soap—				
Powder, extract of soap, &c.	..	3,928	£3,953	790 10 11
Common	4 cwt.	4	4 cwt.	0 17 7
"	1 "	2	..	..
Unenumerated	932,867 "	20,541	£19,303	4,825 16 1

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.		
		£		£	s.	d.
Specie—						
Copper	..	830	..	..		
Gold	..	18,185	..	..		
Silver	..	176	..	..		
Specimens illustrative of natural science ..	..	379	..	..		
Spices—						
Ground	20,450 lb.	900	20,633 lb.	343	17	7
Unground	396,495 „	10,510	364,892 „	3,040	15	5
Spirits—						
Bitters, cordials, and liqueurs	1,814 gals.	1,937	1,773 gals.	1,418	4	0
Brandy	76,718 „	31,951	70,888 „	56,710	3	3
Geneva and gin, unsweetened	57,774 „	13,196	52,162 „	41,729	6	2
Methylated	590 „	77	430 „	24	0	6
Rum	14,679 „	2,745	17,482 „	13,985	15	10
Sweetened	6,111 „	1,789	6 656 „	5,324	19	4
Whisky	361,925 „	126,072	336,815 „	269,451	17	10
Unenumerated ..	3,218 „	2,125	2,384 „	1,907	6	8
Spirits of wine	26,892 „	1,853	2,348 „	1,878	15	10
Methylated, in bond ..	..	..	21,866 „	546	13	1
Sponges	4,699 lb.	461	£461	92	4	0
„	100 „	80	..	..		
Starch	712,257 „	8,351	740,467 lb.	6,170	11	2
Stationery—						
Manufactured	..	34,977	£34,875	8,718	12	7
„	..	2,225	..	..		
Unenumerated ..	..	31,055	£30,752	6,150	9	7
„	..	6,612	..	..		
Apparatus and appliances for teaching purposes	..	4,251	..	..		
Bookbinders' materials ..	..	5,696	..	..		
Materials for cardboard-boxes	..	6,211	..	..		
Unenumerated ..	..	7,442	..	..		
Stearine	202,379 lb.	3,492	202,230 lb.	1,263	18	9
Stone—						
Building	230 tons	550	..	..		
Flagging	½ „	4	..	..		
Granite, and other stone, dressed or polished	..	1,740	£1,740	435	0	0
Stones—Grind-, mill-, oil-, and whet-	..	2,354	..	..		
Sugar—						
Raw	569,314 cwt.	284,671	1,568 lb.	3	5	4
Refined	179,412 „	134,547	70,984,220 „	147,883	15	10
Glucose	5,458 „	2,980	396,426 „	1,651	15	6
Molasses and treacle ..	9,721 „	3,072	2,311,102 „	4,814	15	11
Molasses and treacle, mixed with bone-black	..	..	3,268 cwt.	..		
Sulphur	2,124 cwt.	898	..	..		
Tallow	4 tons	80	..	..		

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Tanning materials, crude—				
Bark	4,374 tons	33,280	..	..
Other kinds	..	7,759	..	..
Tar	..	631	..	..
Tarpaulins and tents ..	..	777	£777	155 8 0
″ ..	..	907	..	..
Tea	4,847,442 lb.	183,717	4,720,522 lb.	78,675 7 3
Textile piece-goods other than silk, cotton, linen, or woollen	..	8,087	£8,118	1,623 12 5
Articles made up from, other than apparel ..	..	10,898	£10,870	2,717 9 11
Ditto	..	325	..	..
Timber—				
Laths and shingles ..	644,458 No.	675	645,000 No.	64 9 9
Logs	1,669 ″	5,614	..	..
Logs, hewn	2,426,653 sup. ft.	23,662	..	..
Palings	430,224 No.	2,444	430,200 No.	430 4 6
Posts	10,600 ″	381	10,600 ″	42 9 0
Rails	11,700 ″	331	11,700 ″	23 8 0
Sawn, undressed ..	3,499,087 sup. ft.	24,043	3,499,100 sup. ft.	3,499 1 1
″ ..	768,030 ″	6,987	..	..
Sawn, dressed	89,602 ″	1,615	89,400 ″	178 15 8
Unenumerated ..	..	2,688	..	..
Tin—				
Block	2,200 cwt.	7,982	..	..
Foil	19,419 lb.	644	..	..
Sheet	46,999 cwt.	31,034	..	..
Tinware	..	9,318	£9,196	2,298 18 2
″	..	3	..	..
Tinsmiths' furnishings and fittings	..	1,326	..	..
Tobacco—				
Unmanufactured ..	62,432 lb.	2,822	44,832 lb.	4,483 4 0
Manufactured	1,417,576 ″	105,579	1,445,912 ″	253,034 10 9
Cigars	77,497 ″	21,805	71,891 ″	25,161 16 1
Cigarettes	137,372 ″	31,414	52,003,100 No. 3,885 oz.	45,502 13 10 97 2 6
Snuff	1,863 ″	216	1,904 lb.	666 8 0
Tobacco-pipes and cases ..	..	16,900	£17,017	4,254 7 5
Tools and implements—				
Axes and hatchets ..	..	10,713	..	..
Engineers' machine tools	..	10,187	..	..
Scythes	..	1,275	..	..
Sheep-shears	..	3,427	..	..
Spades, shovels, and forks	..	14,918	..	..
Unenumerated ..	..	70,631	..	..
Tramway plant	..	392	£392	78 8 0
Turpentine, driers, and terebine	88,255 gals.	9,206	..	..
Twine—				
Binder	1,037 cwt.	1,753	..	
Nets and netting ..	..	611	£669	133 16 0

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1898—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Twine—*continued.*		£		£ s. d.
Unenumerated	237,041 lb.	8,754	£8,239	1,647 17 0
„	2,000 „	120	..	..
„	..	114	..	..
Umbrellas and parasols	..	15,748	£15,739	3,147 17 8
Materials for	..	2,447	..	..
Varnish and gold size	41,379 gals.	18,525	36,422 gals.	3,642 3 11
Vegetables, fresh, dried, and preserved	..	681	£640	128 0 5
Vinegar	63,945 gals.	6,686	58,927 gals.	1,473 3 7
Watches	29,179 No	16,423	£16,677	3,335 8 1
„	2 „	137	..	..
Watchmakers' materials	..	757	..	..
Wax—				
Paraffin	1,124,314 lb.	11,652	1,177,603 lb.	7,360 0 5
„	12 „	1	..	..
Beeswax	95 cwt.	602	..	..
Whalebone	5 „	2	..	..
Whiting and chalk	10,799 „	1,512	10,794 cwt.	539 14 3
Wine—				
Australian	43,512 galls.	14,804	43,428 galls.	10,856 19 10
Sparkling	6,376 „	12,009	6,878 „	3,094 19 2
Other kinds	61,114 „	21,701	57,286 „	17,185 16 9
Woodenware	..	10,761	£10,778	2,155 12 3
„	..	8,897	£9,047	1,357 0 4
„	..	10,203	..	..
Wool, greasy	8,930 lb.	261	..	..
Woollen piece goods	..	266,516	£267,623	53,524 12 8
„	..	3	..	..
Blankets	33,394 pairs	14,438	£14,176	2,835 3 0
Woolpacks	36,531 doz.	26,525	..	..
Wool-pockets	578 „	282	..	..
Yarns	..	5,954	£5,769	1,153 14 4
Coir, flax, and hemp	..	5,761	..	..
Zinc—				
Perforated sheet	386 cwt.	673	..	..
Plain sheet	6,896 „	8,203	..	..
Spelter	4,418 „	4,665	..	..
Zinc manufactures—				
Tiles, ridging	..	63	£84	16 16 0
„	..	1	..	..
Unenumerated	..	174	£172	43 0 0
Minor articles required in the making-up of apparel	..	5,971	..	..
Articles and materials suited only for and to be used solely in the fabrication of goods in the colony	..	13,862	..	..
Goods, miscellaneous—				
Manufactured	..	7,510	..	..
Unmanufactured	..	8,229	..	..
Parcels Post	..	57,627	..	11,725 0 7

CUSTOMS REVENUE.

The Customs and excise duties received during the last five years are shown in detail, also the rate of revenue per head of mean population, inclusive and exclusive of Maoris, for each year:—

—	1894.	1895.	1896.	1897.	1898.
CUSTOMS DUTIES.	£	£	£	£	£
Spirits	338,457	340,972	362,923	384,218	395,513
Wine	28,412	27,102	28,846	30,518	31,138
Ale, Beer, &c.	15,946	17,120	18,208	19,035	19,158
Cigars, Cigarettes, and Snuff	43,132	49,574	58,788	65,347	71,430
Tobacco	216,125	233,770	239,988	244,669	257,516
Tea	103,161	94,716	73,858	76,081	78,676
Coffee, Cocoa, &c... ..	6,145	5,677	5,495	5,722	5,463
Sugar and Molasses ..	133,107	137,493	141,933	148,748	154,355
Opium	7,061	5,969	5,409	5,625	5,501
Other Goods by Weight ..	155,557	160,482	172,733	187,498	187,758
" ad valorem ..	429,594	447,749	562,961	634,043	637,506
Other Duties	90,430	93,884	86,841	102,025	105,987
Parcels Post	5,340	5,462	7,090	8,632	11,725
Totals, Customs Duties	1,572,467	1,619,970	1,765,073	1,912,161	1,961,726
EXCISE DUTIES.					
Tinctures—New Zealand ..	..	53	200	983	*1,244
Cigars, Cigarettes, and Snuff—New Zealand-manufactured	1,544	879	916	191	152
Tobacco — New - Zealand - manufactured	2,239	1,431	1,663	2,358	2,282
Beer—New Zealand ..	60,092	61,705	67,287	71,765	75,164
Totals, Excise Duties ..	63,875	64,068	70,066	75,297	78,842
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Revenue from Customs Duties per head of mean population (excluding Maoris)	2 6 4	2 6 9	2 9 11	2 13 0	2 13 3
Ditto (including Maoris) ..	2 3 7	2 4 2	2 7 3	2 10 3	2 10 6
Revenue from Excise Duties per head of mean population (excluding Maoris) ..	0 1 10·6	0 1 10·2	0 1 11·8	0 2 1·0	0 2 1·7
Ditto (including Maoris) ..	0 1 9·3	0 1 8·9	0 1 10·5	0 1 11·7	0 2 0·4

* Including £89 excise duty on culinary and flavouring essences.

The Customs revenue for the year 1898 amounted to £1,961,726, and the excise duties to £78,842. The revenue from Customs was £2 13s. 3d. per head of population excluding Maoris, and £2 10s. 6d. if they be included. In 1888 the Customs revenue was £2 6s. 2d. per head of European population, and from that time the proportion increased slowly year by year until 1892, when it reached £2 11s. 6d. per head. During the next two years there was a falling-off; but 1895, 1896, 1897, and 1898 show increases, the proportion for 1898 being higher than in any year since 1883. Details for ten years are given:—

CUSTOMS REVENUE PER HEAD OF EUROPEAN POPULATION.

	£	s.	d.		£	s.	d.
1889	2	7	10	1894	2	6	4
1890	2	9	3	1895	2	6	9
1891	2	9	7	1896	2	9	11
1892	2	11	6	1897	2	13	0
1893	2	10	4	1898	2	13	3

Dating from 1890, the taxation by way of Customs and excise duties together only increased from £2 11s. 2d. in that year to £2 11s. 11d. in 1896, to £2 15s. 1d. in 1897, and to £2 15s. 4d. in 1898.

There was an alteration of tariff in 1895 in certain items, but the amount of duty paid for 1898 does not bear a higher proportion to the total value of imports (less specie) for that year than the duty paid in 1894, prior to the new tariff, to the imports of that year.

Under these circumstances a rise in revenue from Customs taxation would seem to indicate a greater import of taxable articles, and show that purchasing power had increased. It is at least certain that the value of imports rose from £5,990,177 (excluding specie), in 1894, to £8,211,409 in 1898, notwithstanding the change of tariff.

The new tariff of 1895 has been given in full in this book (see page 66). The rates of duty levied during the year included 16s. per gallon on spirits; 30s. per gallon on perfumed spirits; 7s. per pound on cigars and snuff; 17s. 6d. per 1,000 of 2½lb. and under, and 6d. per ounce weight over 2½lb. per 1,000, on cigarettes; 3s. 6d. per pound on manufactured and 2s. on unmanufactured tobacco. Sparkling wine is charged 9s. a gallon; Australian, 5s.; other kinds, 6s.; ale and beer, 2s. The duty on tea is 4d. the pound; on cocoa, chocolate, and chicory, 3d.; raw coffee, 2d.; roasted, 5d. Sugar, molasses, and treacle pay ½d., and glucose 1d. per pound. Opium is charged 40s. per pound. The remainder of the Customs revenue, with small exception, is made up of charges on goods by weight, *ad valorem* duties, ranging from 5 to 40 per cent., and receipts from the foreign parcels post. There is also an excise duty of 1s. per pound on tobacco; 1s. 6d. per pound on cigars, cigarettes, and snuff; 3d. per gallon on beer; 9d. per pound on tinctures, &c., manufactured in the colony, containing more than 50 per cent. of proof spirit, and 3d. per pound when less than 50 per cent.

By "The Tobacco Excise Duties Act, 1896," the excise duty on cigarettes made in the colony is now (from the 31st December, 1896) 2s. 6d. per pound on machine-made and 1s. per pound on hand-made cigarettes.

"The Tobacco Act Amendment Act, 1896," enacts that all packages of manufactured tobacco shall be labelled before leaving the manufactory, and provides for the issue of warrants to use cutting-machines for cutting duty-paid manufactured tobacco for sale (or to be used in the manufacture of cigarettes by hand), and to manufacture cigarettes by hand, under certain conditions.

SECTION XI.—EXPORTS AND TOTAL TRADE.

THE value of all the exports in 1898 was £10,517,955; the value of New Zealand produce exported, £10,324,988: being at the rate of £13 17s. 9d. per head of population, against £13 6s. for the previous year. The increase in the value of exports of New Zealand produce for 1898 over that for 1897 amounts to £728,721, or at the rate of 7·59 per cent. This is a considerably higher rate of increase than the results for the year 1897 showed over those of 1896, when the amount was £418,931, and the percentage 4·56.

A comparative statement of exports according to value for the two years is given, showing the amounts for various principal articles, being the produce or manufacture of the colony, classified according to their nature into groups :—

	Year 1897.	Year 1898.	Increase in 1898.	Decrease in 1898.
THE MINE.	£	£	£	£
Coal	69,595	50,381	..	19,214
Gold	980,204	1,080,691	100,487	..
Silver, and minerals	31,144	43,471	12,327	..
Total	1,080,943	1,174,543	93,600	..
THE FISHERIES.				
Fish	17,198	15,609	..	1,589
Oysters	1,644	4,373	2,729	..
Other	185	358	173	..
Total	19,027	20,340	1,313	..
THE FOREST.				
Fungus	10,240	7,093	..	3,147
Kauri-gum	398,010	586,767	188,757	..
Timber—				
Sawn and hewn	154,169	164,723	10,554	..
Other	2,120	2,787	667	..
Total	564,539	761,370	196,831	..

	Year 1897.	Year 1898.	Increase in 1898.	Decrease in 1898.
	£	£	£	£
ANIMALS AND PRODUCE.				
Bacon and hams	13,560	8,211	..	5,349
Beef (salted)	6,151	6,379	228	..
Butter	402,605	403,690	1,085	..
Cheese	150,517	135,776	..	14,741
Hides	10,021	27,232	17,211	..
Live-stock	11,974	19,708	7,734	..
Preserved meats	78,235	97,171	18,936	..
Frozen meat	1,566,286	1,698,750	132,464	..
Rabbit-skins	47,472	51,607	4,135	..
Sausage-skins	48,328	45,539	..	2,789
Sheepskins and pelts	188,121	244,579	56,458	..
Tallow	259,964	302,141	42,177	..
Wool	4,443,144	4,645,804	202,660	..
Other	5,953	7,493	1,540	..
Total	7,232,331	7,694,080	461,749	..
AGRICULTURAL PRODUCTS.				
Bran and sharps	30,279	3,690	..	26,589
Chaff	6,082	33	..	6,049
Flour	104,214	5,946	..	98,268
Grain—				
Barley	5,353	456	..	4,897
Beans and peas	15,128	6,933	..	8,195
Maize	2,054	12,476	10,422	..
Malt	30,962	25,868	..	5,094
Oats	167,229	87,924	..	79,305
Wheat	14,703	2,463	..	12,240
Hops	13,565	6,252	..	7,313
Oatmeal	19,022	17,001	..	2,021
Potatoes	20,992	141,077	120,085	..
Seeds (grass and clover)	46,947	78,519	31,572	..
Other	18,645	22,039	3,394	..
Total	495,175	410,677	..	84,498
MANUFACTURES.				
Apparel	4,418	2,331	..	2,087
Leather	98,155	103,838	5,683	..
Phormium (New Zealand hemp)	30,674	74,556	43,882	..
Woollen manufactures	12,370	9,634	..	2,736
Other manufactures	51,984	63,446	11,462	..
Total	197,601	253,805	56,204	..
Miscellaneous	6,651	10,173	3,522	..
Total exports (colonial produce and manufactures)	9,596,267	10,324,988	728,721	..
Specie	275,771	68,117	..	207,654
Other exports (British and foreign)	144,955	124,850	..	20,105
Total exports	£10,016,993	10,517,955	500,962	..

The class designated "Animals and Produce" shows by far the greatest value, the sum being for 1898 £7,694,080, which includes £4,645,804 for wool and £1,698,750 for frozen meat. The total value of exports in this class increased during the year by £461,749 on a total of £7,232,331 in 1897.

"The Mine" takes second place among the classes, with an export of coal, gold, silver, and other minerals amounting to £1,174,543 for 1898, being an increase of £93,600 on £1,080,943, the export for the previous year.

"The Forest" shows the export for last year to be £761,370, which, on account of the development of the kauri-gum industry, gives an increase of £196,831, or 34·87 per cent. since 1897.

"Agricultural Products," principally grain, potatoes, and seeds, compose the fourth group, and here a decrease has to be noticed of £84,498, or 17·06 per cent. on £495,175 of exports in 1897, the value for 1898 amounting to £410,677. This decline is attributable to the fall in the export of grain, which was so considerable as to effect the above result, notwithstanding the enormous increase in value of potatoes sent out of the colony, which advanced from £20,992 in 1897 to £141,077 in 1898.

"Manufactures" returned £253,805 in 1898, being £56,204 more than in the previous year. Leather is the most important item, the export for 1898 being £103,838. Phormium shows an excellent advance on the operations for 1897, with an increase of £43,882 on an export of only £30,674 in 1897. Woollen manufactures sent abroad receded.

The smallest group in respect to value is "The Fisheries," which shows an advance in the export of oysters, but a decrease in other fish. The total for the group is only £20,340 for last year.

The exports of New Zealand produce or manufacture for the two last years have also to be considered in relation to quantity, and the articles are again grouped in the next table according to the same classification as that used for purposes of comparing the values.

QUANTITIES OF THE PRINCIPAL ARTICLES OF NEW ZEALAND PRODUCE EXPORTED.

Items.	Year 1897.	Year 1898.	Increase in 1898.	Decrease in 1898.
The Mine:—				
Coal .. .. Tons	76,073	56,332	..	19,741
Gold .. .. Oz.	251,647	280,175	28,528	..
Silver .. .. "	183,892	293,851	109,959	..
Minerals .. .. Tons	2,957	3,532	575	..
The Fisheries:—				
Fish .. .. Cwt.	10,191	8,794	..	1,397
Oysters .. .. Doz.	235,654	787,240	551,586	..
The Forest:—				
Fungus .. .. Cwt.	6,384	4,526	..	1,858
Gum (kauri) .. Tons	6,641	9,905	3,264	..
Timber (sawn and hewn) Ft.	39,326,396	40,721,632	1,395,236	..

QUANTITIES OF THE PRINCIPAL ARTICLES, ETC.—*continued.*

Items.	Year 1897.	Year 1898.	Increase in 1898.	Decrease in 1898.
Animals and Produce:—				
Bacon and hams .. Cwt.	4,128	2,372	..	1,756
Beef (salted) .. „	5,793	6,223	430	..
Butter .. .. „	99,002	96,801	..	2,201
Cheese .. .. „	77,683	68,711	..	8,972
Hides .. .. No.	10,746	32,897	22,151	..
Live-stock .. .. „	3,765	7,240	3,475	..
Meat (preserved) .. Cwt.	45,055	55,766	10,711	..
„ (frozen) .. „	1,407,921	1,551,773	143,852	..
Sausage-skins .. „	10,100	9,865	..	235
Skins (rabbit) .. No.	8,099,334	6,607,934	..	1,491,400
„ (sheep) .. „	3,688,051	4,995,325	1,307,274	..
Tallow .. .. Cwt.	310,200	347,160	36,960	..
Wool .. .. Lb.	135,835,117	149,385,815	13,550,698	..
Agricultural Products:—				
Bran and sharps .. Tons	9,117	922	..	8,195
Chaff .. .. „	1,713	8	..	1,705
Flour .. .. „	9,816	655	..	9,161
Grain (barley) .. Bush.	34,986	2,665	..	32,321
„ (beans and peas) „	68,967	28,188	..	40,779
„ (malt) .. „	124,612	97,748	..	26,864
„ (oats) .. „	1,600,458	816,210	..	784,248
„ (wheat) .. „	72,167	10,090	..	62,077
„ (maize) .. „	18,697	91,079	72,382	..
Hops .. .. Cwt.	2,703	915	..	1,788
Meal (oat) .. .. Tons	1,814	1,568	..	246
Potatoes .. .. „	7,692	22,507	14,815	..
Seeds (grass and clover) Bush.	144,117	274,557	130,440	..
Manufactures:—				
Leather .. .. Cwt.	19,431	19,992	561	..
Phormium .. .. Tons	2,769	4,850	2,081	..

The numerical increases in such articles as wool, frozen and preserved meats, tallow, sheepskins, live-stock, hides, kauri-gum, gold, seeds, potatoes, and phormium are all most satisfactory, and in some cases very striking, while, on the other hand, the grain export, as also that of butter and cheese, declined in 1898. The quantities of increase and decrease are all exhibited in the table; but, to show the degree of progress, the proportions per cent. in respect of certain important items have been calculated:—

INCREASES.

Export of		Rate of Increase per Cent. in 1898–99.	Export of		Rate of Increase per Cent. in 1898-99.
Hides ..	No. ..	206·13	Preserved meat	Cwt. ..	23·77
Potatoes ..	Tons ..	192·60	Tallow ..	„ ..	11·91
Live-stock ..	No. ..	92·30	Gold ..	Oz. ..	11·34
Seeds ..	Cwt. ..	90·51	Frozen meat ..	Cwt. ..	10·22
Phormium ..	Tons ..	75·15	Wool ..	Lb. ..	9·98
Gum (kauri) ..	„ ..	49·15	Timber ..	Ft. ..	3·55
Sheepskins ..	No. ..	35·45	Leather ..	Cwt. ..	2·89

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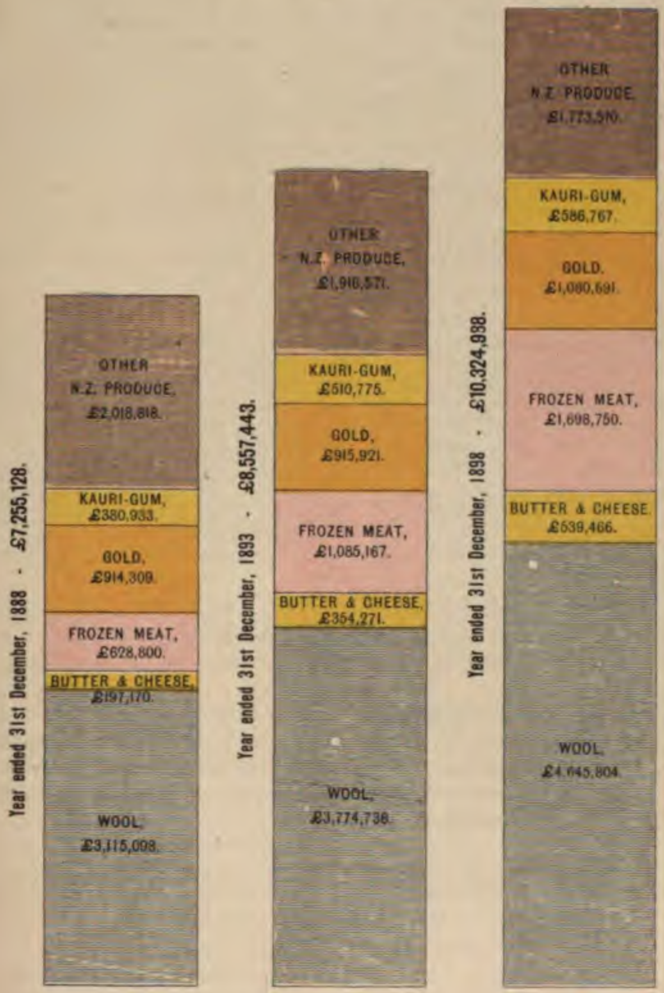
VALUE OF EXPORTS, NEW-ZEALAND-PRODUCE

1888, 1893, and 1898.



DECREASES.

Export of		Rate of Decrease per Cent. in 1898-99.	Export of		Rate of Decrease per Cent. in 1898-99.
Barley	Bush.	92·38	Coal	Tons	25·95
Wheat	„	86·02	Malt	Bush.	21·56
Beans and peas	„	59·13	Rabbitskins	No.	18·41
Oats	„	49·00	Cheese	Cwt.	11·55
Fungus	Cwt.	29·10	Butter	„	2·22

The position in respect of a period of eleven years, 1888 to 1898 inclusive, is presented in a table giving the domestic exports for each. In this statement the most important items of export under the heading "Other New Zealand Produce" are coal, silver, minerals, fish, oysters, fungus, kauri-gum, timber, bacon, salted and preserved meats, tallow, sheep- and rabbit-skins, hides, sausage-skins, and live-stock. The aggregate value of these in 1898 was £1,677,771.

EXPORTS OF NEW ZEALAND PRODUCE.

Calendar Year.	Wool.	Gold.	Frozen Meat.	Butter and Cheese.	Agricultural Produce.	Manufactures	Other N.Z. Produce.	Total.
	£	£	£	£	£	£	£	£
1888	3,115,098	914,309	628,800	197,170	905,907	233,383	1,260,461	7,255,128
1889	3,976,375	785,490	783,374	213,945	1,424,297	569,880	1,288,647	9,042,008
1890	4,150,599	751,360	1,087,617	207,687	1,289,864	547,947	1,393,687	9,428,761
1891	4,129,686	1,007,172	1,194,724	236,933	894,467	420,357	1,516,755	9,400,094
1892	4,313,307	951,963	1,033,377	318,204	1,035,637	367,677	1,345,703	9,365,868
1893	3,774,738	915,921	1,085,167	354,271	716,546	345,636	1,365,164	8,557,443
1894	4,827,016	887,865	1,194,545	366,483	317,655	224,958	1,266,626	9,085,148
1895	3,662,131	1,162,181	1,262,711	378,510	326,029	188,702	1,409,889	8,390,153
1896	4,391,848	1,041,428	1,251,993	411,882	572,355	198,081	1,309,749	9,177,336
1897	4,443,144	980,204	1,566,286	553,122	495,175	197,601	1,360,735	9,596,267
1898	4,645,804	1,080,691	1,698,750	539,466	410,677	253,805	1,695,795	10,324,988

The above table shows that the value of the exports of New Zealand produce fell from £9,428,761 in 1890 to £8,390,153 in 1895, rose in 1896 to £9,177,336, in 1897 to £9,596,267, and in 1898 to £10,324,988.

Thus there was an increase of exports since 1895, or in the three years 1896, 1897, and 1898, to the value of £1,934,835, all New Zealand produce, and more than a complete recovery to the figures for 1890 and 1891, after which followed a decrease in values. With the amount of increase in money must be considered the state of prices of the various kinds of produce.

The export of wool, measured by quantity, rose from 102,817,077 lb. in 1890 to 149,385,815 lb. in 1898, or at the rate of 45·29 per cent., and that of frozen meat from 898,894 cwt. to 1,551,773 cwt.

Gold, too, which was exported to the quantity of 187,641 oz. in 1890, increased to 280,175 oz. in 1898.

Inasmuch as the values of exports for the years ended 31st March are preferred to those of the calendar years by many persons for comparative purposes, on account of late or early shipments of wool,

&c., another table is given containing such figures. This has been done by special request :—

Year ended 31st March.	Wool.	Gold.	Frozen Meat.	Butter and Cheese.	Agricultural Produce.	Manufactures	Other N.Z Produce.	Total.
	£	£	£	£	£	£	£	£
1889	3,337,122	842,066	666,556	211,801	1,063,886	165,770	1,440,752	7,727,953
1890	4,204,372	776,652	862,184	228,091	1,398,999	675,132	1,268,870	9,414,300
1891	4,199,421	692,775	1,152,948	215,678	1,217,049	472,865	1,478,186	9,428,922
1892	4,207,873	1,104,981	1,194,890	287,102	887,856	408,585	1,485,053	9,576,340
1893	4,039,202	921,560	1,005,536	331,955	1,030,904	352,549	1,369,940	9,051,646
1894	4,325,246	970,221	1,045,707	348,971	609,552	305,594	1,315,598	8,920,889
1895	4,198,348	889,613	1,295,850	423,629	324,708	215,370	1,307,982	8,655,500
1896	4,299,407	1,196,059	1,318,317	373,686	370,577	195,214	1,405,571	9,158,831
1897	4,245,147	1,015,741	1,203,807	433,205	557,713	195,924	1,319,828	8,971,365
1898	4,651,995	976,199	1,738,934	583,862	473,747	192,099	1,436,011	10,052,847
1899	4,273,000	1,168,929	1,601,157	534,474	436,445	283,924	1,760,860	10,058,789

Re-exports.

The re-export trade of the colony would seem from the subjoined figures to have been almost stationary for the last ten years, the figures for 1889 and 1898 only differing by a sum of £14,497 :—

EXPORTS OF BRITISH, FOREIGN, AND OTHER COLONIAL PRODUCE (EXCLUDING SPECIE).

	£		£
1889	139,347	1894	136,402
1890	140,555	1895	127,966
1891	160,765	1896	122,571
1892	125,052	1897	144,955
1893	123,402	1898	124,850

With these sums may be contrasted the re-export trade of New South Wales—a colony having less than double the population of New Zealand—which, exclusive of specie, amounted in 1897 to £3,643,517.

Exports from the North and Middle Islands.

The exports from the North and Middle Islands respectively, excluding "Parcels post," during the two years were as under :—

Year.	North Island.	Middle Island.	Proportion to Total Export.	
	£	£	North Island.	Middle Island.
1897	4,428,824	3,584,579	55·27	44·73
1898	5,811,132	4,697,578	55·30	44·70

The North Island now exports 55 per cent., or more than half of the total for the two islands.

Wool exported and produced.

The quantity of wool exported in 1898, as previously shown, was 149,385,815 lb., valued at £4,645,804. The annual production, however, can be better estimated by taking the exports for the twelve months immediately preceding the commencement of shearing, and adding thereto the quantity used in the colony for manufacturing purposes.

The following shows the produce for each of the last eleven years ending on the 30th September :—

Year ending 30th September.	Quantity exported.	Quantity purchased by Local Mills.	Total Annual Produce.
	Lb.	Lb.	Lb.
1888	89,276,268	4,079,563	93,355,831
1889	95,618,507	3,556,004	99,174,511
1890	102,522,185	2,979,293	105,501,478
1891	108,619,473	2,918,073	111,537,546
1892	110,860,050	3,388,954	114,249,004
1893	119,643,874	2,629,855	122,273,729
1894	128,480,457	2,476,155	130,956,612
1895	129,333,769	3,299,132	132,632,901
1896	128,309,673	3,989,934	132,299,607
1897	134,410,955	3,298,469	137,709,424
1898	150,401,399	3,763,831	154,165,230

From these figures it appears that the wool-clip has increased by 65·14 per cent. within the last eleven years.

To arrive at a perfectly correct estimate of the increase in wool production it would be necessary to take into consideration the proportion of greasy, scoured, and washed wool exported each year, the washing process of course greatly reducing the weight. The percentages of greasy, scoured, and washed wool to the total quantities exported during the last three years are :—

Years.	Greasy. Per Cent.	Scoured. Per Cent.	Washed. Per Cent.
1896	77·89	20·74	1·37
1897	78·87	19·96	1·17
1898	78 62	20·36	1·02

The increase in the wool-production is, of course, mainly due to the greater number of sheep—namely, 19,673,725 in April, 1898, against 15,122,133 in May, 1888. A comparative statement for six years is supplied, showing the increase of the flocks in groups of sizes :—

NUMBER OF FLOCKS, 1888 TO 1898.

Size of Flocks.	1888.	1890.	1892.	1894.	1896.	1898.
Under 500	6,579	7,662	8,822	10,314	12,028	12,886
500 and under 1,000 ..	1,182	1,528	2,033	2,427	2,605	2,708
1,000 and under 2,000 ..	794	854	1,193	1,409	1,460	*2,412
2,000 and under 5,000 ..	524	586	761	933	892	
5,000 and under 10,000 ..	287	283	314	345	340	341
10,000 and under 20,000..	213	236	231	230	231	231
20,000 and upwards ..	166	160	176	179	147	144
Total	9,745	11,309	13,530	15,837	17,703	18,722

* From 1,000 to 2,500, 1,798 flocks; from 2,500 to 5,000, 614 flocks.

It will be apparent that the tendency of increase is toward multiplication of the smaller flocks, whose owners are better ab cope with the rabbit difficulty than the large runholders.

Export of Rabbit-skins.

Prior to 1878 rabbit-skins were a very small item in the exp but in that year the number sent out of the colony amount 3,951,209. Ten years after (1888) the export had risen to 11,809 from which it increased to 17,041,106 in 1893, the greatest nu as yet exported in a year. From 1895 the fall was rapid, an export for 1898 only reached 6,607,934 skins.

The figures for the six years during which there has been de are quoted :-

Year.			Number of Rabbit-skins exported.	Year.		Number of Rabbi exported.
1893	..	..	17,041,106	1896	..	10,838,6
1894	..	..	14,967,885	1897	..	8,099,3
1895	..	..	15,229,814	1898	..	6,607,9

From the above it will be seen that the importance of the e has of late very much diminished. The fall represented in m value, has been :-

Year.			Value of Rabbit-skins exported. £	Year.		Value of Rabb exporte £
1893	..	..	138,942	1896	..	65,58
1894	..	..	87,998	1897	..	47,47
1895	..	..	83,052	1898	..	51,60

While the amount of money received for this produce colony shows less profit from the industry than formerly, it m a satisfactory result, as seemingly indicating some abatement rabbit pest.

Export of Sheepskins and Pelts.

These form a more important article of export at the p time than the rabbit-skins, though in the year 1888 the positio the reverse as regards value of money. In 1888 the num sheepskins and pelts sent away from New Zealand was 1,6 [illegible]

Year.	Export of Sheepskins and Pelts. No.	Year.	Export of Sh and Pe No.
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]		

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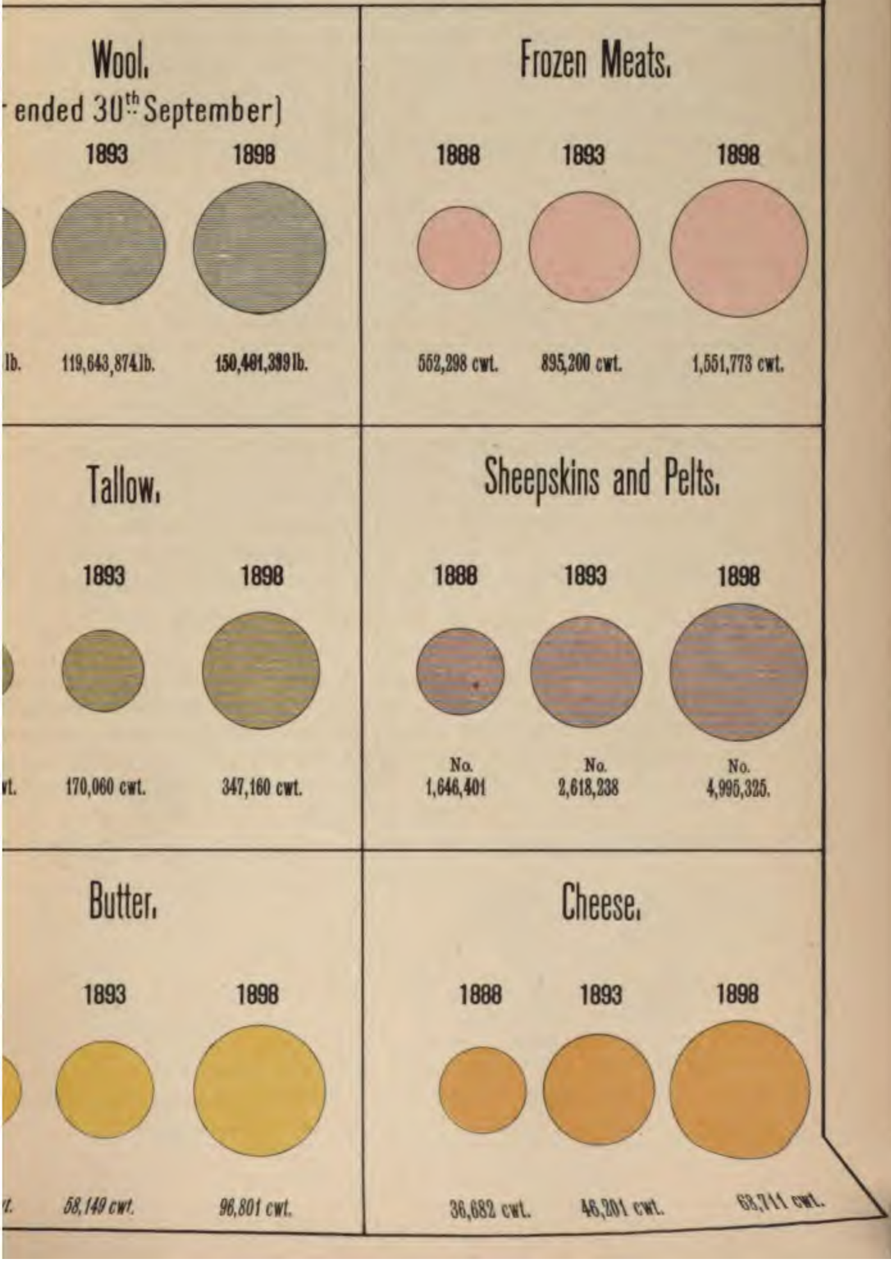
EXPORT OF CERTAIN PRINCIPAL ARTICLES THE PRODUCE OF THE COLONY.

1888, 1893, and 1898.



It will be apparent that the tendency of increase is towards the multiplication of the smaller flocks, whose owners are better able to cope with the rabbit difficulty than the large runholders.

Export of Rabbit-skins.

Prior to 1878 rabbit-skins were a very small item in the exports, but in that year the number sent out of the colony amounted to 3,951,209. Ten years after (1888) the export had risen to 11,809,407, from which it increased to 17,041,106 in 1893, the greatest number as yet exported in a year. From 1895 the fall was rapid, and the export for 1898 only reached 6,607,934 skins.

The figures for the six years during which there has been decline are quoted :—

Year.	Number of Rabbit-skins exported.	Year.	Number of Rabbit-skins exported.
1893	17,041,106	1896	10,828,612
1894	14,267,385	1897	8,099,334
1895	15,229,314	1898	6,607,934

From the above it will be seen that the importance of the export has of late very much diminished. The fall, represented in money value, has been :—

Year.	Value of Rabbit-skins exported. £	Year.	Value of Rabbit-skins exported £
1893	138,952	1896	65,599
1894	87,993	1897	47,472
1895	85,022	1898	51,607

While the amount of money received for this produce of the colony shows less profit from the industry than formerly, it may be a satisfactory result, as seemingly indicating some abatement of the rabbit pest.

Export of Sheepskins and Pelts.

These form a more important article of export at the present time than the rabbit-skins, though in the year 1888 the position was the reverse as regards value in money. In 1888 the number of sheepskins and pelts sent away from New Zealand was 1,646,401, against 4,995,325 in 1898, a rise of 203·41 per cent. for the period between those years. The value increased from £83,574 to £244,579, or 192·65 per cent. Figures for the last five years are quoted :—

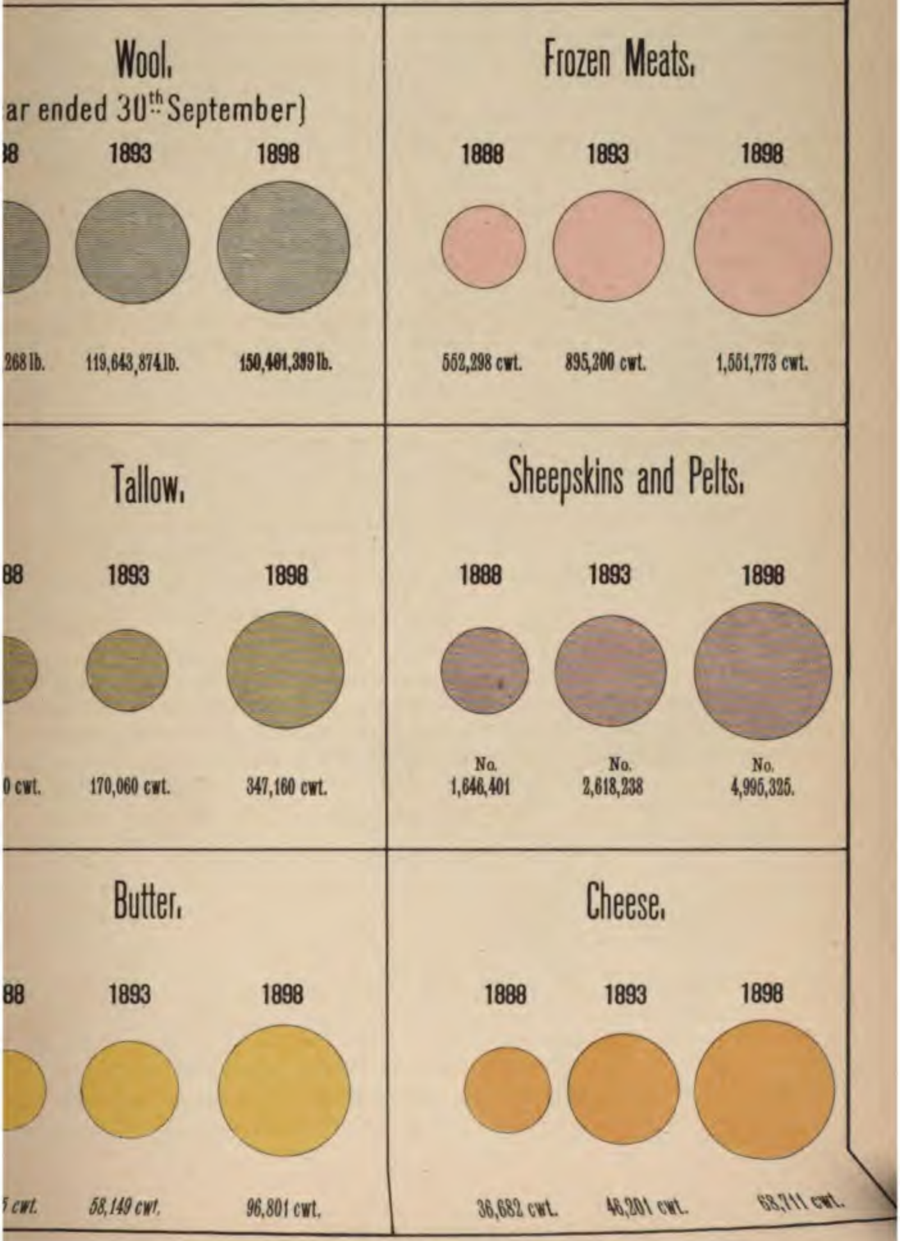
Year.	Export of Sheepskins and Pelts. No.	Year.	Export of Sheepskins and Pelts. No.
1894	2,681,552	1897	3,688,051
1895	3,230,539	1898	4,995,325
1896	3,001,791		

Export of Tallow.

Besides wool and meat, tallow is largely exported, and since the year 1888, when 136,460 cwt. were sent away, the quantity has increased to 347,160 cwt. in 1898. In value this export considerably exceeds that of the sheepskins or rabbit-skins, and the money is indeed a little over the total for those two articles taken together. The five latest years show the following results :—

EXPORT OF CERTAIN PRINCIPAL ARTICLES THE PRODUCE OF THE COLONY.

1888, 1893, and 1898.



TALLOW EXPORTED.

Years.	Cwt.	£	Years.	Cwt.	£
1894	199,400	204,499	1897	310,200	259,964
1895	263,560	260,999	1898	347,160	302,141
1896	222,540	208,821			

Frozen Meat exported.

Frozen meat now takes second place among the exports of New Zealand produce. In 1898, 1,551,773 cwt., valued at £1,698,750, were shipped in the colony. An account of the development of the industry was given in a special article in the Year-book, 1894. The total export for each year since the commencement of the trade has been :—

Year.	Lb.	Year.	Lb.
1882	1,707,328	1891	110,199,082
1883	9,853,200	1892	97,636,557
1884	28,445,228	1893	100,262,453
1885	33,204,976	1894	114,827,216
1886	38,758,160	1895	127,018,864
1887	45,035,984	1896	123,576,544
1888	61,857,376	1897	157,687,152
1889	73,564,064	1898	173,798,576
1890	100,934,756		

The above figures for 1898 include 112,635 cwt. of frozen rabbits and hares in the skin. The number of the animals was 4,251,596.

To ascertain the total value of the meat-export in 1898 it is necessary to take into consideration, with the amount of £1,698,750, value of frozen meat before stated, £9,946 for frozen fish; also the value of preserved meats, £97,171; of salted beef and pork, £6,379; and of bacon and hams, £8,211.

Gold exported.

The amount of gold exported in 1898 was 280,175 oz.

The total quantity of gold entered for duty to the 31st December, 1898, which may be reckoned as approximately the amount obtained in the colony, was 13,845,727 oz., of the value of £54,453,325. For fuller information see Section XVII., "Mining."

Grain exported.

The value of the grain exported in 1898 was £136,120. The grain exports were made up as under :—

	Bushels.	£
Wheat	10,090	2,463
Oats	816,210	87,924
Barley	2,665	456
Malt	97,748	25,868
Maize	91,079	12,476
Peas and beans	28,188	6,933
Total quantity and value	1,045,980	£136,120

The decline since 1890 in the export of wheat has been very great. The figures are :—

Year.	Wheat exported. Bushels.	Year.	Wheat exported. Bushels.
1890	4,467,026	1896	453,123
1892	2,460,774	1898	10,090
1894	228,904		

And not only has the export of wheat fallen off, as shown in the preceding figures, but the imports of that cereal during 1898 exceeded the exports by upwards of 50,000 bushels.

Nor is the result different in the case of oats, except in degree:—

Year.	Export of Oats. Bushels.	Year.	Export of Oats. Bushels.
1891	4,052,414	1896	2,247,053
1892	3,830,444	1898	816,210
1894	1,963,288		

Similarly, with barley, the export fell from 240,937 bushels in 1890 to 2,665 bushels in 1898; beans and peas show 189,340 bushels exported in 1890, against 28,188 bushels last year; maize, 287,885 bushels against 91,079 bushels. The export of malt, however, increased, the quantities having been 82,667 bushels in 1890, and 97,748 in 1898. But how greatly the loss in grain exports has been counteracted by increased production of wool, meat, hides, skins, tallow, &c., is easily seen by reference to the information previously given under those heads. And, further, a revival in export may be confidently anticipated in consequence of the good harvest in 1899, and greater breadth of land put into grain crops:—

	1897-98. Acres.	1898-99. Acres.
Land in wheat	315,801	399,034
„ oats	354,819	417,320
„ barley	29,920	45,671

Butter and Cheese exported.

The total quantity of butter and cheese exported in the past eleven years, and the amount of either commodity sent to the United Kingdom is tabulated:—

Year.	Total Export of Butter	Butter Exported to the United Kingdom.	Total Export of Cheese.	Cheese Exported to the United Kingdom.
	Cwt.	Cwt.	Cwt.	Cwt.
1888	29,995	11,460	36,682	25,436¼
1889	37,955	21,099	26,558	7,633
1890	34,816	26,579	40,451	31,043
1891	39,430	28,989	39,770	29,565
1892	53,930	41,509	41,493	30,000
1893	58,149	52,363	46,201	41,567
1894	60,771	58,845	55,655	54,540
1895	57,964	55,194	76,743	73,369
1896	71,353	60,092	71,372	58,692
1897	99,002	79,849	77,683	67,681
1898	96,801	80,814	68,711	41,412

Of the butter exported in 1898, 80,814 cwt., valued at £323,076, were shipped to the United Kingdom; 3,424 cwt., value £17,154, to New South Wales; 5,130 cwt., value £25,829, to Victoria; 1,474 cwt., value £8,248, to Western Australia; 387 cwt., value £1,867, to Fiji; and 512 cwt., value £2,627, to the South Seas.

Of the cheese exported, 41,412 cwt., valued at £80,159, were sent to the United Kingdom; 15,493 cwt., value £31,102, to New South Wales; 4,150 cwt., value £8,720, to Victoria; 4,781 cwt., value £9,860, to Western Australia; and 2,083 cwt., value £4,232, to the other Australasian Colonies. While the quantity of butter exported in 1898, 96,801 cwt., shows an increase of 222 per cent. on the quantity exported in 1888, the increase in the export of cheese during the eleven years has been at the rate of 87 per cent.—68,711 cwt. in 1898, as against 36,682 cwt. in 1888.

Phormium exported.

Phormium, the export of which fell from 21,158 tons in 1890 to 4,850 tons in 1898, nevertheless shows an improvement in the export on comparing the figures for last year with those for 1897, when the quantity sent away was only 2,769 tons, or with the export for the year 1895, which was 1,806 tons. Outside of the question of prices, a large permanent development of this industry depends on the cultivation and careful selection of the plants used, and on improvements in the method of preparing the fibre.

Kauri-gum exported.

The advance in this item to 9,905 tons exported in 1898 is a substantial one. The value was £59 4s. 9d. per ton. Full information as to the uses of this resin and the kauri-gum industry generally is given in a special article in Part III., embracing interesting matter from the report of the Royal Commission which investigated the whole subject in 1898.

Exports from different Ports, &c.

The following table gives the values of the exports from each port in New Zealand for the last two years, arranged in order of magnitude for 1898:—

	1898.	1897.
	£	£
Lyttelton	1,934,636	2,073,553
Wellington	1,888,075	1,509,960
Auckland	1,676,152	1,365,040
Napier	1,113,242	1,032,072
Dunedin	886,689	1,043,506
Invercargill and Bluff	629,670	664,186
Timaru	512,379	518,025
Poverty Bay	353,155	332,861
Wanganui	308,120	320,327
New Plymouth	241,790	302,195
Greymouth	234,754	165,084
Oamaru	207,106	251,373
Wairau and Picton	137,113	122,361

	1898.	1897.
	£	£
Kaipara	98,664	105,181
Waitara	90,584	..
Hokitika	68,409	60,910
Nelson	43,589	63,681
Westport	43,233	31,885
Patea	41,350	46,638
Tauranga	..	2

Although Auckland, as was seen previously, had the largest import trade for the year 1898, Lyttelton and Wellington take first and second places respectively in exports. Napier exported last year more value than Dunedin, which had only half the exports of Auckland, and considerably less than half of those for Lyttelton and Wellington.

The increase in value of exports during 1898 was £378,115 at Wellington, £311,112 at Auckland, and £81,170 at Napier. But at Dunedin a decrease is found of £156,817, and at Lyttelton of £138,917. Invercargill also shows a decrease.

DETAILS OF ALL EXPORTS, 1898.

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
			£	£	£
Acid, carbolic .. lb.	..	80	..	4	4
Agricultural implements ..	..	..	1,884	952	2,836
Alkali: Potash, and caustic potash .. cwt.	106	..	141	..	141
Animals, living—					
Birds .. No.	26	..	8	..	8
Cattle (horned) .. "	472	..	3,477	..	3,477
Deer .. "	1	..	1	..	1
Dogs .. "	30	..	83	..	83
Goats .. "	24	..	15	..	15
Horses .. "	210	8	8,789	660	9,449
Ostriches .. "	12	..	128	..	128
Pigs .. "	288	..	502	..	502
Poultry .. "	2,769	..	367	..	367
Sheep .. "	6,270	..	6,338	..	6,338
Apparel and slops ..	..	..	2,331	1,762	4,093
Arms, ammunition, and explosives—					
Caps, percussion .. No.	..	15,000	..	3	3
Cartridges .. "	..	500	..	4	4
Dynamite .. lb.	..	110	..	9	9
Firearms .. No.	..	136	..	427	427
Fuse .. coils	..	1,470	..	49	49
Ordnance stores ..	..	..	20	1,598	1,618
Powder, blasting .. lb.	..	150	..	7	7
" sporting .. "	..	1,405	..	95	95

DETAILS OF ALL EXPORTS, 1898—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
			£	£	£
Bacon and hams—					
Bacon .. .. cwt.	1,430	..	4,515	..	4,515
Hams .. .. "	942	..	3,696	..	3,696
Bags and sacks—					
Cornsacks .. .. doz.	..	3,861	..	782	782
Unenumerated .. "	927	10,730	99	1,086	1,185
Basketware and wickerware ..	..	..	2	3	5
Beer .. .. galls.	17,225	5,739	1,629	1,177	2,806
Beverages, non-alcoholic—					
Aerated and mineral waters, doz.	2,609	61	453	32	485
Coffee essence	..	..	..	110	110
Limejuice, unsweetened galls.	..	14,014	..	877	877
Unenumerated	..	..	1	2	3
Bicycles and tricycles .. No.	2	319	40	3,807	3,847
Materials for	..	..	..	920	920
Biscuits—					
Fancy and other kinds lb.	3,130	..	63	..	63
Ship's plain .. cwt.	..	2,282	..	2,211	2,211
Blacking	..	..	..	23	23
Blue .. .. lb.	..	6,268	..	160	160
Boats .. .. No.	9	1	865	1,100	1,965
Bones .. .. tons	26	..	103	..	103
Books, &c., printed	..	..	2,038	2,058	4,096
Boots and shoes ..doz. pairs	90	289	371	1,031	1,402
Bran .. .. tons	514	..	1,747	..	1,747
Brass—					
Pigs, bars, tubes, or sheets cwt.	..	20	..	19	19
Bricks—					
Building .. .. No.	11,000	..	27	..	27
Fire .. .. "	4,400	..	39	..	39
Brushware and brooms ..	..	..	4	21	25
Butter .. .. cwt.	96,801	..	403,690	..	403,690
Candles .. .. lb.	..	375	..	15	15
Canvas	..	..	..	67	67
Carpeting and druggeting ..	..	..	..	77	77
Carriages, &c.—					
Carriages .. .. No.	11	1	226	22	248
Carts, drays, and wagons "	3	..	26	..	26
Perambulators .. "	3	..	5	..	5
Materials for	..	..	9	..	9
Casks, empty .. No.	799	1,197	225	465	690
Cement .. .. barrels	27	125	19	79	98
Chaff .. .. tons	8	..	33	..	33
Chains .. .. cwt.	..	30	..	28	28
Cheese .. .. "	68,711	..	135,776	..	135,776
Chinaware	..	..	..	145	145
Clocks .. .. No.	..	2	..	25	25
Coals .. .. tons	56,332	8,857	50,381	7,258	57,639
Cocoa and chocolate .. lb.	..	3,292	..	197	[illegible]

DETAILS OF ALL EXPORTS, 1898—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
Coffee—			£	£	£
Raw .. .. lb.	..	24,841	..	840	840
Roasted .. .. „	..	176	..	13	13
Coke.. .. .. tons	9	..	14	..	14
Confectionery—namely, chocolate confectionery—					
Plain trade packages lb.	..	308	..	24	24
Fancy packages	..	..	..	4	4
Unenumerated .. lb.	9,221	100	260	5	265
Copra .. .. tons	..	617	..	6,981	6,981
Cordage .. .. cwt.	329	257	559	518	1,077
„ iron and steel „	..	12	..	26	26
Cotton piece-goods, namely,—					
Calico, white and grey ..	..	..	..	821	821
Cottons—					
Butter- and cheese-cloth ..	..	..	..	8	8
Moleskin	..	..	..	5	5
Shirtings	..	..	..	42	42
Unenumerated	..	..	..	3,214	3,214
Cotton—					
Raw .. .. lb.	..	11,485	..	184	184
Waste .. .. cwt.	..	3	..	5	5
Cutlery	..	..	..	146	146
Doors .. .. No.	250	..	159	..	159
Drapery	..	..	78	1,274	1,352
Lace and laces n.o.e ..	..	..	..	22	22
Tailors' trimmings	..	..	..	70	70
Drugs, chemicals, and druggists' wares—					
Baking-powder	..	..	..	63	63
Chemicals n.o.e.	..	..	312	272	584
Cream of tartar .. lb.	..	448	..	21	21
Drugs, druggists' sundries, and apothecaries' wares ..	..	..	961	984	1,945
Medicinal barks, leaves, &c. ..	..	..	6	..	6
Sheep-dip	..	..	210	330	540
Sheep- and horse-drenches and sheep-licks	..	..	..	349	349
Dyes	..	..	..	19	19
Earthenware	..	..	117	2,256	2,373
Eggs .. .. doz.	43	..	2	..	2
Engine-packing .. cwt.	..	2½	..	6	6
Fancy goods and toys	..	..	225	910	1,135
Curiosities	..	..	466	150	616
Fire-hose and other appliances ..	..	..	..	6	6
Fireworks	..	..	..	6	6
Fish—					
Anchovies, salted .. cwt.	..	2⅛	..	14	14
Dried, pickled, or salted „	76	100	97	166	263

DETAILS OF ALL EXPORTS, 1898—*continued*.

Articles exported.		Quantities.		Value in Sterling.		
		Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
Fish—*continued*.				£	£	£
Potted and preserved	lb.	212,751	36,530	6,066	933	6,999
Frozen	cwt.	6,827½	..	9,446	..	9,446
Ova	..	..	..	122	..	122
Fishing-tackle ..	..	..	..	..	67	67
Floorcloth and oilcloth	..	..	..	..	34	34
Flour	tons.	655	7	5,946	63	6,009
Foods, farinaceous—						
Maizena and cornflour	lb.	300	32,847	3	647	650
Unenumerated ..	..	..	..	74	..	74
Fruits—						
Bottled and preserved	doz.	366	252	114	61	175
Dried: Currants ..	lb.	..	8,691	..	114	114
Raisins	"	..	9,849	..	204	204
Unenumerated ..	"	..	15,178	..	313	313
Fresh: Lemons ..	"	..	14,027	..	224	224
Other kinds ..	"	141,756	29,352	1,383	206	1,589
Fungus	cwt.	4,526	..	7,093	..	7,093
Furniture and upholstery	..	..	..	1,095	371	1,466
Furniture, knife, and plate powder and polish ..	..	..	..	6	..	6
Furs	..	..	..	..	3	3
Glass bottles, empty ..	..	..	..	..	179	179
Glassware	..	..	..	53	188	241
Glue and size.. ..	cwt.	821	..	452	..	452
Glycerine	"	494	..	730	..	730
Gold	oz.	280,175	..	1,080,691	..	1,080,691
Grain and pulse—						
Barley	bush.	2,665	..	456	..	456
Beans and peas ..	"	28,188	..	6,933	..	6,933
Maize	"	91,079	..	12,476	..	12,476
Oats	"	816,210	..	87,924	..	87,924
Rye	"	1,116	..	198	..	198
Wheat	"	10,090	..	2,463	..	2,463
Unenumerated ..	"	401	..	77	..	77
Grease	cwt.	..	10	..	12	12
Grindery	..	..	..	..	62	62
Gum, kauri	tons	9,905	¼	586,767	8	586,775
Haberdashery ..	..	..	..	..	345	345
Sewing-cottons, silks, and threads	..	..	..	..	217	217
Hair	cwt.	525	..	3,122	..	3,122
Hardware, holloware, and ironmongery	..	..	..	546	3,023	3,569
Hats and caps ..	doz.	1	206	4	244	248
Hay and straw ..	tons	258	..	700	..	700
Hides	No.	32,897	..	27,232	..	27,232
Honey	lb.	26,070	..	419	..	419
Hops	cwt.	915	30	6,252	240	6,492

DETAILS OF ALL EXPORTS, 1898—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
			£	£	£
Horns and hoofs .. tons	35	..	682	..	682
Hosiery	..	..	312	601	913
Indiarubber and guttapercha goods	..	..	..	64	64
Ink, printing .. .. lb.	..	50	..	7	7
Instruments, musical—					
Pianofortes.. .. No.	..	10	..	390	390
Unenumerated	..	..	2	114	116
Instruments, optical	..	..	..	36	36
„ scientific ..	..	..	..	279	279
„ surgical and dental	..	..	..	12	12
„ surveying ..	..	..	..	95	95
Iron and steel—					
Bar, bolt, and rod .. tons	6½	21	70	207	277
Bolts and nuts .. cwt.	2	6	2	7	9
Galvanised manufactures ..	..	..	214	47	261
Sheet and plate	..	..	..	4	4
Sheet, galvanis'd corrugated cwt	..	1,479	..	1,250	1,250
Tanks, each 400 galls. No.	..	14	..	46	46
„ 200 „ „	..	2	..	4	4
Wire fencing, barbed tons	..	14½	..	150	150
Wire netting	..	..	..	92	92
Wire, unenumerated tons	..	9	..	92	92
Unenumerated „	..	144	..	417	417
Jams, jellies, and preserves lb.	10,689	9,712	223	198	421
Jewellery	..	..	55	49	104
Lamps, lanterns, and lampwick	..	..	..	24	24
Lard.. .. .. cwt.	117	..	230	..	230
Lead, pigs and bars .. tons	..	8	..	136	136
Leather .. .. cwt.	19,992	66	103,838	1,019	104,857
„ manufactures, unenumerated	..	..	4	4	8
Lime .. .. bush.	3,006	..	173	..	173
Linen piece-goods	..	..	..	33	33
Linseed .. .. centals	371	..	185	..	185
Machinery and machines—					
Agricultural	..	..	8,561	2,475	11,036
Ploughs and harrows ..	..	..	20	..	20
Dairying	..	..	21	1,198	1,219
Electric	..	..	..	2,176	2,176
Engines, steam .. No.	..	2	..	95	95
„ gas .. „	..	4	..	900	900
„ boilers for .. „	..	2	..	22	22
Flour-milling	..	..	..	44	44
Gas-making	..	..	..	140	140
Mining	..	..	63	220	283
Printing	..	..	..	60	60
Refrigerating	..	..	..	357	357
Sewing and knitting No.	..	83	..	243	243

DETAILS OF ALL EXPORTS, 1898—*continued*.

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
Machinery—*continued*.			£	£	£
Wood-working	..	..	..	6	6
Woollen-milling	..	..	..	35	35
Wool-pressing	..	..	373	..	373
Unenumerated	..	..	339	10,675	11,014
Materials for, and parts of ..	..	..	..	386	386
Malt.. .. .. bush.	97,748	..	25,868	..	25,868
Manures—					
Bonedust .. .. tons	1	..	7	.	7
Unenumerated .. "	83	..	419	..	419
Matches and vestas—					
Wax .. .. gross	9	259	5	29	34
Wooden .. .. "	..	1,642	..	157	157
Mats and matting	..	..	827	15	842
Meal, oaten .. .. centals	31,364	..	17,001	..	17,001
Meats—					
Beef, chilled .. cwt.	80	..	50	..	50
" fresh .. "	119	..	153	..	153
" frozen .. "	95,218	..	104,002	..	104,002
" salted .. "	6,163	..	6,271	..	6,271
Kidneys, frozen .. "	4,987	..	7,223	..	7,223
Lamb " .. carcases =cwt.	1,168,883 371,379	..	524,301	..	524,301
Mutton, frozen (whole carcases).. .. carcases =cwt.	1,719,282 903,820	..	899,923	..	899,923
Mutton (joints), frozen cwt.	62,976	..	68,317	..	68,317
Pork, frozen .. "	2	..	3	..	3
" salted .. "	60	..	108	..	108
Veal, frozen .. "	67	..	92	..	92
Other kinds, frozen .. "	609	..	1,003	..	1,003
Rabbits and hares frozen in the skin .. No. =cwt.	4,251,596 112,635	.. ..	93,836	..	93,836
Potted and preserved "	55,766	9	97,171	26	97,197
Extract of meat, Bovril lb.	8,172	..	2,403	..	2,403
Unenumerated .. cwt.	68	..	138	..	138
Medicines, patent and proprietary	..	..	803	224	1,027
Metal, Manufactures of ..	..	..	252	859	1,111
Anchors .. .. No.	..	11	..	4	4
Rivets and washers .. cwt.	..	11	..	15	15
Typewriters .. No.	..	4	..	51	51
Sheathing, other than copper .. .. cwt.	..	5	..	25	25
Metal, old .. .. cwt.	..	2,232	..	1,332	1,332
Milk, preserved .. lb.	493,656	33,824	9,429	656	10,085
Millinery—					
Feathers, ornamental ..	..	..	186	..	186
Other kinds	..	..	..	14	14

DETAILS OF ALL EXPORTS, 1898—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
			£	£	£
Minerals—					
Copper ore .. .. tons	2¼	..	70	..	70
Sulphur .. .. "	1,765	..	4,097	..	4,097
Manganese .. "	217	..	703	..	703
Quartz, auriferous .. "	22	..	380	..	380
Unenumerated .. "	41	..	315	..	315
Mustard .. .. lb.	..	946	..	52	52
Nails .. .. cwt.	..	439	..	347	347
Naphtha .. .. galls.	..	50	..	17	17
Nuts—					
Almonds in shell .. lb.	..	1,890	..	52	52
Barbary .. .. "	..	740	..	30	30
Oars .. .. No.	4	106	2	31	33
Oil—					
Castor, bulk .. galls.	..	911	..	103	103
" bottled doz. pints	..	44	..	8	8
Colza .. .. galls.	..	1,673	..	238	238
Cocoanut .. .. "	..	1,665	..	169	169
Fish, penguin, and seal "	..	16,692	..	1,202	1,202
Linseed .. .. "	..	2,525	..	354	354
Kerosene .. .. "	..	60,707	..	2,751	2,751
Neatsfoot .. .. "	240	..	24	..	24
Olive, bulk .. .. "	..	1,336	..	191	191
Whale .. .. "	1,932	..	134	..	134
Unenumerated, bulk "	2,200	6,332	194	517	711
Oilmen's stores	..	..	540	747	1,287
Onions .. .. cwt.	43,551	237	16,424	159	16,583
Oysters .. .. doz.	787,240	..	4,373	..	4,373
Paints and colours—					
Ground in oil .. cwt.	..	187	..	247	247
Mixed ready for use .. "	9	98	63	443	506
Unenumerated .. "	90	11	57	23	80
Paper—					
Bags .. .. cwt.	515	..	435	..	435
Printing .. .. "	23	46	17	83	100
Hangings .. .. pieces	..	150	..	4	4
Wrapping .. .. cwt.	488	348	398	385	783
Writing .. .. "	..	78	..	140	140
Unenumerated .. "	..	45	..	45	45
Peas split .. .. "	..	1	..	1	1
Perfumery—					
Perfumed spirits .. galls.	..	20	..	32	32
Unenumerated	..	..	..	10	10
Phormium .. .. tons	4,850	..	74,556	..	74,556
Tow .. .. "	183½	..	590	..	590
Photographic goods	..	..	121	367	488
Photographic cameras and lenses	..	..	..	49	49
Pickles .. .. galls.	..	507	..	88	88

DETAILS OF ALL EXPORTS, 1898—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
			£	£	£
Pictures, paintings, drawings, engravings, and photographs ..	..	..	1,277	186	1,463
Pitch .. .. cwt.	..	60	..	12	12
Plants, shrubs, &c.	..	..	592	6	598
Plate and platedware	..	..	50	1,536	1,586
Pollard and sharps .. tons	408	..	1,943	..	1,943
Portmanteaux	..	..	..	13	13
Potatoes .. .. tons	22,507	..	141,077	..	141,077
Printing materials	..	..	..	126	126
Provisions	..	..	246	43	289
Pumps	..	..	210	132	342
Rags .. .. cwt.	863	..	538	..	538
Rice .. .. „	..	758	..	607	607
Rugs	..	..	1,711	18	1,729
Saddlery and harness	..	..	553	98	651
Harness-oil, composition, and leather-dressing	..	..	..	17	17
Salt .. .. .. tons	..	1	..	35	35
Sashes, window .. pairs	502	..	300	..	300
Sauces .. .. galls.	127	194	61	102	163
Sausage-skins .. cwt.	9,865	260	45,539	1,205	46,744
Seeds—					
Grass and clover „	49,028	113	78,519	221	78,740
Unenumerated	..	..	1,771	134	1,905
Shells, pearl .. .. cwt.	..	260	..	1,305	1,305
Ship-chandlery, n.o.e.	..	..	96	186	282
Silk piece-goods	..	..	..	270	270
Silver .. .. oz.	293,851	..	33,107	..	33,107
Skins—					
Calf and other .. No.	2,637	4	283	1	284
Rabbit .. .. No.	6,607,934	..	51,607	..	51,607
= lb.	889,707				
Sheep, with wool .. No.	227,883	..	29,225	..	29,225
=lb.	1,484,382				
Sheep, without wool No.	4,767,442	..	215,354	..	215,354
=lb.	9,190,403				
Soap—					
Common .. .. cwt.	3,351	..	2,330	..	2,330
Powder, extract of soap, &c. ..	..	..	..	17	17
Unenumerated .. lb.	5,514	3,620	104	153	257
Specie—					
Gold	..	..	..	65,185	65,185
Silver	..	..	..	2,932	2,932
Specimens, illustrative of natural science	..	..	804	20	824
Spices, unground .. lb.	..	13,271	..	4,822	4,822
Spirits—					
Bitters, cordials, and liqueurs galls.	..	32	..	32	32

DETAILS OF ALL EXPORTS, 1898—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
Spirits—*continued.*			£	£	£
Brandy .. .. galls.	..	745	..	422	422
Geneva and gin .. "	..	663	..	183	183
Rum .. .. "	..	549	..	103	103
Whiskey .. .. "	..	3,507	..	1,402	1,402
Unenumerated .. "	..	47	..	16	16
Spirits of wine .. galls.	..	255	..	22	22
Starch .. .. lb.	..	5,612	..	50	50
Stationery	..	..	1,072	855	1,927
Stone—					
Building .. .. tons.	33	..	43	..	43
Pumice .. .. "	1,354	..	4,514	..	4,514
Wrought	..	..	66	19	85
Unwrought.. .. tons	98	..	176	..	176
Sugar—					
Refined .. .. lb.	1,371,452	167,072	8,388	1,279	9,667
Molasses and treacle "	..	838	..	7	7
Tallow .. .. tons	16,288	..	281,583	..	281,583
Mutton stock, and oleomargarine .. .. tons	929	..	18,628	..	18,628
Oil .. .. "	141	..	1,930	..	1,930
Tarpaulins and tents	..	..	74	40	114
Tanning materials—					
Bark .. .. tons	249	..	1,565	..	1,565
Other kinds	..	..	44	..	44
Tea .. .. lb.	..	83,523	..	3,617	3,617
Textile piece-goods	..	..	20	184	204
Timber—					
Logs, hewn .. sup. ft.	909,050	..	2,478	..	2,478
Sawn, undressed .. sup. ft.	39,172,996	450	145,868	2	145,870
" dressed .. "	2,639,586	300	16,377	4	16,381
Staves .. .. No.	1,400	..	17	..	17
Unenumerated	..	..	1,161	44	1,205
Tinware	..	..	456	71	527
Tobacco, manufactured lb.	..	32,724	..	2,498	2,498
" Cigars .. "	..	2,243	..	867	867
" Cigarettes .. "	..	1,989	..	666	666
Tobacco-pipes and cases, &c. ..	..	..	..	26	26
Tools and implements—					
Axes and hatchets	..	..	..	13	13
Engineers' machine tools ..	..	..	23	..	23
Unenumerated	..	..	3	347	350
Turpentine .. .. galls.	..	3,405	..	489	489
Twine	..	..	245	27	272
" Binder.. .. cwt.	3,983	254	5,401	339	5,740
Umbrellas and parasols ..	..	..	..	126	126
Varnish and gold size .. galls.	49	634	21	243	264
Vegetables, fresh, dried, or preserved	..	..	1,372	40	1,412

DETAILS OF ALL EXPORTS, 1898—*continued.*

Articles exported.		Quantities.		Value in Sterling.		
		Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
				£	£	£
Watches	No.	..	485	..	1,203	1,203
Whalebone	cwt.	14	..	102	..	102
Wine—						
Australian	galls.	..	269	..	121	121
Sparkling	"	..	219	..	418	418
Other kinds	"	..	764	..	344	344
Woodenware	..	..	..	344	1,714	2,058
Wool—						
Greasy	lb.	117,447,498	..	3,401,320	..	3,401,320
Scoured	"	16,281,950	..	697,831	..	697,831
Sliped	"	14,132,923	..	490,171	..	490,171
Washed	"	1,523,444	..	56,482	..	56,482
Woollen piece-goods	..	..	..	7,134	761	7,895
" blankets	pairs	698	..	789	..	789
Zinc spelter	cwt.	1,326	1,139	694	804	1,498
Goods, miscellaneous—						
Manufactured	..	..	..	132	137	269
Unmanufactured	..	..	..	796	470	1,266
Parcels Post	..	..	..	9,245	..	9,245

Total Value of Trade.

The value of the total trade of New Zealand advanced from £13,431,804 in the year 1886 to £18,748,555 in 1898. But of these amounts some portion was coin. Excluding the specie, the figures for 1886 are £12,853,736, and for 1898, £18,661,247.

Year.	Total Trade.	Imports.	Exports.	Imports (excluding Specie).	Exports (excluding Specie).	Excess of Exports over Imports (excluding Specie).
	£	£	£	£	£	£
1886	13,431,804	6,759,013	6,672,791	6,319,223	6,534,513	215,290
1887	13,111,684	6,245,515	6,866,169	6,064,281	6,680,772	616,491
1888	13,709,225	5,941,900	7,767,325	5,430,050	7,403,206	1,972,156
1889	15,650,727	6,308,863	9,341,864	5,980,583	9,183,954	3,203,371
1890	16,072,245	6,260,525	9,811,720	5,928,895	9,569,316	3,640,421
1891	16,070,246	6,503,849	9,566,397	6,431,101	9,560,859	3,129,758
1892	16,477,907	6,943,056	9,534,851	6,742,544	9,490,920	2,748,376
1893	15,896,879	6,911,515	8,985,364	6,494,279	8,680,845	2,186,566
1894	16,019,067	6,788,020	9,231,047	5,990,177	9,221,550	3,231,373
1895	14,950,353	6,400,129	8,550,224	6,115,953	8,518,119	2,402,166
1896	16,458,425	7,137,320	9,321,105	7,035,379	9,299,907	2,264,528
1897	18,072,216	8,055,223	10,016,993	7,994,201	9,741,222	1,747,021
1898	18,748,555	8,230,600	10,517,955	8,211,409	10,449,838	2,238,429

The trade for these years has been selected for exhibition in tabular form because during each of the series there was an excess of exports over imports, whereas previously the reverse obtained, and the colony was purchasing to an extent not covered by the value of the export.

During the last thirteen years the excess of exports over imports, excluding money sent to and from the colony, amounted to a total sum of £29,595,946.

How different the foregoing conditions were from those previously obtaining will be seen by observing the balance of trade for the years 1881 to 1885 inclusive:—

Year.	Excess of Imports over Exports.	Year.	Excess of Imports over Exports.
	£		£
1881 ..	.. 1,406,898	1884 ..	.. 235,981
1882 ..	.. 1,948,485	1885 ..	.. 539,239
1883 ..	.. 761,938		

The gradually declining excess of imports turned in 1886 and 1887 to a small excess of exports, but subsequently the excess of exports was very great, and attained the sum of £3,640,421 in the year 1890.

Again considering the results for the thirteen years, 1886–98, during which the balance was in favour of the exports, the external trade is shown for each year per head of population, the calculations being made exclusive as well as inclusive of specie, for the purpose of arriving at exact conclusions as regard trade in goods. In the year 1894 the imported money amounted to a sum of £797,843, making a substantial difference in the rates.

Excluding specie, the trade per head of population increased from £22 1s. 7d., in 1886, to £25 6s. 11d. in 1898: imports from £10 17s. 1d. to £11 3s. 1d., and exports from £11 4s. 6d. to £14 3s. 10d.

Year.	Including Specie.									Excluding Specie.								
	Total Trade per Head of Mean Population (excluding Maoris).			Imports per Head of Mean Population (excluding Maoris).			Exports per Head of Mean Population (excluding Maoris).			Total Trade per Head of Mean Population (excluding Maoris).			Imports per Head of Mean Population (excluding Maoris).			Exports per Head of Mean Population (excluding Maoris).		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1886	23	1	5	11	12	2	11	9	3	22	1	7	10	17	1	11	4	6
1887	21	19	8	10	9	5	11	10	3	21	7	5	10	3	4	11	4	1
1888	22	12	11	9	16	4	12	16	7	21	4	0	8	19	5	12	4	7
1889	25	9	11	10	5	6	15	4	5	24	15	9	9	15	6	15	0	3
1890	25	13	10	10	0	2	15	13	8	24	19	4	9	11	0	15	8	4
1891	25	10	4	10	6	6	15	3	10	25	7	10	10	4	3	15	3	7
1892	25	13	2	10	16	3	14	16	11	25	5	6	10	9	11	14	15	7
1893	24	0	9	10	9	0	13	11	9	22	18	11	9	16	5	13	2	6
1894	23	11	9	9	19	11	13	11	10	22	7	11	8	16	5	13	11	6
1895	21	11	10	9	4	10	12	7	0	21	2	8	8	16	8	12	6	0
1896	23	5	8	10	1	11	13	3	9	23	2	2	9	19	1	13	3	1
1897	25	0	11	11	3	3	13	17	8	24	11	7	11	1	7	13	10	0
1898	25	9	3	11	3	7	14	5	8	25	6	11	11	3	1	14	3	10

The highest record of trade was that for 1873, when the rate per head was £41 19s. 3d., the imports, in consequence of the large expenditure of borrowed money, amounting at that time to £22 9s. 4d. per head, against £11 3s. 7d. in 1898.

It has been customary to leave out the Maoris in estimating the sum per head, for their industries and necessities swell the volume of trade in comparatively so slight a measure that the amount per head of European population can be more truly ascertained by omiting them altogether.

Trade with different Countries or Colonies.

The trade with the United Kingdom in 1898 amounted to £13,414,332, comprising 71·55 per cent. of the total.

With the Australian Colonies and Tasmania, trade was done during 1898 to the value of £2,634,022; of which New South Wales claimed £1,552,220, and Victoria £733,195, made up as follows:—

EXPORTS FROM NEW ZEALAND.

	£
To New South Wales, 1898	910,416
" Victoria, 1898	400,773

EXPORTS TO NEW ZEALAND.

	£
From New South Wales, 1898	641,804
" Victoria, 1898	332,422

The latter amounts, in each case, represent the declared values of the imports into New Zealand from the colonies mentioned, not their export value as given in the New South Wales and Victorian returns.

Included in the exports to New Zealand from New South Wales is coal to the quantity of 115,418 tons, valued at £105,203.

Trade with Fiji increased from £194,729 in 1893 to £256,172 in 1897, and in 1898 to £355,119. The trade with the other Pacific Islands (including Norfolk Island) decreased from £144,786 in 1897 to £132,382 in 1898.

Of the exports to the United States in 1898 the values of the principal New Zealand products were: Coals, £689; kauri-gum, £299,524; hides, £9,864; sheepskins, £2,789; rabbit-skins, £17,586; sausage-skins, £19,297; wool, £2,364; and phormium, £9,458.

The table on the following page shows the value of the total trade with the United States for each of the past ten years, 1889 to 1898 inclusive, during which period imports from that country have more than doubled in value, and exports nearly so:—

TRADE WITH THE UNITED STATES.

Year.	Imports from		Exports to		Total Trade
	Atlantic Ports.	Pacific Ports.	Atlantic Ports.	Pacific Ports.	
	£	£	£	£	£
1889	307,156	35,280	242,778	98,584	683,798
1890	321,047	34,348	364,332	218,802	938,529
1891	317,913	43,882	395,386	119,822	877,003
1892	344,799	36,828	459,314	61,483	902,424
1893	345,743	33,635	430,842	65,706	875,926
1894	359,196	35,495	230,829	56,367	681,887
1895	351,823	42,410	298,536	18,103	710,872
1896	419,689	73,151	263,564	63,025	819,429
1897	521,939	106,105	252,013	123,083	1,003,140
1898	700,555	99,856	337,059	286,074	1,423,544

The development in the decennial period is at the rate of 108·18 per cent., or an increase in value of £739,746.

The trade with India and Ceylon reached a total of £322,122, against £306,434 in 1897. The imports—tea, rice, castor-oil, woolpacks, &c.—were reckoned at £318,616, leaving a balance of only £3,506 for exports.

Trade of the Australasian Colonies.

The following table gives the value of the imports and exports of the Australasian Colonies for the year 1897 :—

Colony.	Total Value of		Excess of Exports over Imports.	Excess of Imports over Exports.
	Imports.	Exports.		
	£	£	£	£
Queensland	5,429,191	9,091,557	3,662,366	..
New South Wales	21,744,350	23,751,072	2,006,722	..
Victoria	15,454,482	16,739,670	1,285,188	..
South Australia	7,277,086	7,070,750	..	206,336
Western Australia	6,418,565	3,940,098	..	2,478,467
Tasmania	1,367,608	1,744,461	376,853	..
New Zealand	8,055,223	10,016,993	1,961,770	..

In the preceding table is given the total trade inwards and outwards of each colony, counting twice over the value of goods produced in one colony and carried thence into another, and reckoning the same goods three times where they are imported from without into one colony and re-exported thence in the same year into another colony. But, in order to form a just idea of the trade of the Australasian Colonies as a whole, it is necessary to eliminate the intercolonial traffic altogether. From the following table the value of imports and exports exchanged between the various colonies has accordingly been excluded :—

EXTERNAL TRADE OF AUSTRALASIA.

Year.	Total Trade.	Imports.	Exports.	Excess of Imports.	Excess of Exports.
	£	£	£	£	£
1885 ..	72,220,444	41,136,038	31,084,406	10,051,632	..
1890 ..	75,143,818	38,451,160	36,692,658	1,758,502	..
1891 ..	84,565,778	41,325,033	43,240,745	..	1,915,712
1892 ..	75,325,933	34,529,501	40,796,432	..	6,266,931
1893 ..	67,788,738	27,925,990	39,862,748	..	11,936,758
1894 ..	65,192,202	26,063,630	39,128,572	..	13,064,942
1895 ..	67,624,317	27,425,725	40,198,592	..	12,772,867
1896 ..	74,511,262	34,420,596	40,090,666	..	5,670,070
1897 ..	83,569,568	37,862,741	45,706,827	..	7,844,086

It will be observed that in the year 1885 the excess of imports over exports for Australasia amounted to no less a sum than £10,051,632, and that five years later the excess of imports had fallen to £1,758,502. In 1891 the position was completely reversed, the exports exceeding the imports by £1,915,712. This excess increased to £6,266,931 in the following year (1892), and to £13,064,942 in 1894, but decreased to £12,772,867 in 1895, to £5,670,070 in 1896, and was £7,844,086 in 1897.

The trade per head of the population in each of the colonies in 1897 was :—

TRADE PER HEAD OF THE POPULATION IN 1897.

Colony.	Mean Population.	Imports.			Exports.			Total Trade.		
		£	s.	d.	£	s.	d.	£	s.	d.
Queensland	478,440	11	6	11	19	0	1	30	7	0
New South Wales	1,310,550	16	11	10	18	2	6	34	14	4
Victoria	1,172,790	13	3	7	14	5	6	27	9	1
South Australia	353,518	20	3	2	19	11	11	39	15	1
Western Australia	155,749	41	4	2	25	5	11	66	10	1
Tasmania	168,916	8	1	11	10	6	6	18	8	5
New Zealand (exclusive of Maoris)	721,609	11	3	3	13	17	8	25	0	11

But the values of the exports of the Australian Colonies, more especially New South Wales, Victoria, and South Australia, are largely increased by the inclusion of articles the produce or manufacture of other colonies and countries.

The value of home productions or manufactures exported from each colony in 1897, and the rate per head of mean population, were as follow :—

Colony.	Home Produce exported.	Per Head of Population.		
	£	£	s.	d.
Queensland	8,831,450	18	9	2
New South Wales	17,057,543	13	0	4
Victoria	12,829,394	10	18	9
South Australia	2,484,140	7	0	6
Western Australia	3,218,569	20	13	4
Tasmania	1,721,959	10	3	11
New Zealand	9,596,267	13	6	0

The next table sets forth the amount of the trade of each of the above-named colonies with the United Kingdom in 1897:—

Colony.	Imports from the United Kingdom.	Exports to the United Kingdom.	Total Trade with the United Kingdom.
	£	£	£
Queensland	2,501,952	3,322,703	5,824,655
New South Wales	7,557,069	8,728,828	16,285,897
Victoria	6,004,798	9,559,249	15,564,047
South Australia	2,057,567	2,182,946	4,240,513
Western Australia	2,624,086	1,736,205	4,360,291
Tasmania	397,510	274,497	672,007
New Zealand	5,392,738	8,168,123	13,560,861

The statement appended shows the relative importance of the Australasian Colonies as a market for the productions of the United Kingdom:—

EXPORTS OF HOME PRODUCTIONS FROM THE UNITED KINGDOM, IN 1896, TO—

	£
British India and Ceylon	31,103,596
Germany	22,244,405
Australasia	21,888,292
United States	20,424,225
France	14,151,512
South Africa	13,821,357
Holland	8,333,935
Belgium	7,816,152

The exports to other countries did not amount to £7,000,000 in any one case.

The Australasian Colonies as a whole, with a population of about 4,500,000, thus take the third place in importance as consumers of British produce, the exports thereto being more than two-thirds the value of similar exports to British India, with its 290,000,000 inhabitants.

SECTION XII.—MANUFACTORIES AND WORKS.

COMPARISON OF TOTAL RESULTS, 1896, 1891, 1886.

THE results of the compilation of the special returns, relating to the various manufactories, works, &c., in the colony are compared with those shown for each of the two previous censuses in the statement given further on.

It must be remembered that, while all establishments or works are included which are of the nature of a factory, employing a number of persons, using some kind of machinery or plant, and probably steam- or water-power, the smaller establishments, where only a few persons may be engaged in making articles for retail disposal, or in repairs, as a general rule are kept out of the tables, which do not therefore give the value of all the work done in such matters as boot and shoe, general clothing, and furniture making, &c. But, though it is not easy to settle in all cases what to put in and what to leave out, it can be fairly well done, and quite sufficiently so to admit of reliable comparisons being given of different census results, so as to afford a just idea of the development or otherwise of the various branches of industry. The totals for the industries do not include mining and quarrying, which are dealt with separately.

The annual value of all manufactures increased between 1890 and 1895 by the sum of £775,523, while the increase for the previous quinquennium was as great as £2,062,458. But a moderate increase in money signifies, in respect of some items, a greater increase in production. The increases of quantity are stated in the special tables for the more important industries given in the Statistical volume. It will be noticed that generally these increases were shown to be very satisfactory in case of such industries as meat-freezing, butter- and cheese-making, sawing of timber, and others which depend directly on work done upon the lands which are being developed; but, in regard to some of the smaller manufacturing industries carried on in the towns, the position in April, 1896, did not always show great development, though things have changed for the better since.

The development of the butter- and cheese-making industry by way of factory work helped greatly to make up the total increase shown between 1890 and 1895; on the other hand, the decline of the flax- and grain-milling operated unfavourably on the comparison for those years.

The great rise of the meat-freezing industry happened between 1885 and 1890, and this large increase, representing in money no less than £920,781, was probably the principal cause of the increase for the whole of the manufactures being so much greater for the period 1885–90 than for 1890–95; but there was also, amongst many other causes, the fact that flax-milling was prosperous in 1890 (showing an increase over 1885 amounting to £214,207), but in 1895 in a state of the utmost depression, the value of the product of the mills being only £32,546, against £234,266 in 1890.

MANUFACTORIES AND WORKS, 1896, 1891, 1886.

	April, 1896. No.	April, 1891. No.	March, 1886. No.	Increase, 1891–96. No.	Increase, 1886–91. No.
Number of establishments *	2,459	2,254	1,946	205	308
Hands employed—					
Males	22,986	22,664	19,601	322	3,063
Females	4,403	2,969	2,494	1,434	475
Totals * ..	27,389	25,633	22,095	1,756	3,538
	Year 1895. £	Year 1890. £	Year 1885. £	Increase, 1890–95. £	Increase, 1885–90. £
Wages paid—					
To Males ..	1,776,076	1,705,641	†	70,435	†
„ Females ..	131,516	102,999	†	28,517	†
Totals * ..	1,907,592	1,808,640	†	98,952	†
	H.-p.	H.-p.	H.-p.	H.-p.	H.-p.
Horse-power	28,096	21,696	15,491	6,400	6,205
	£	£	£	£	£
Total approximate value of manufactures or produce *	9,549,360	8,773,837	6,711,379	775,523	2,062,458
Total approximate value of—					
Land	1,063,989	1,286,735	1,477,996	−222,746	−191,261
Buildings	1,743,073	1,483,902	1,446,082	259,171	37,820
Machinery and plant	2,988,955	2,491,189	2,172,852	497,766	318,337
Totals * ..	5,796,017	5,261,826	5,096,930	534,191	164,896

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* Omitting Government Railway Workshops and Government Printing Office.
† No information available.

Hands employed.

Under the heading "Hands employed," the males increased from 19,601 in 1886 to 22,986, or at the rate of nearly 18 per cent. in ten years; but the numerical increase was higher between 1886 and 1891 than from 1891 to 1896. On the other hand, the females employed increased in numbers between 1891 and 1896 far more than in the previous period, the increase for 1891–96 being at the rate of 48 per cent., and only 19 per cent. for 1886–91, or 77 per cent. for ten years.

The order of the principal industries, ranged according to the number of hands employed, is as follows:—

	Number of Hands.	
	1896.	1891.
Clothing and boot and shoe factories	4,407	3,233
Sawmills, sash and door factories	4,059	3,266
Printing establishments (excluding Government Printing Office)	2,351	2,569
Meat freezing, preserving, and boiling-down works	2,037	1,568
Iron and brass foundries, boiler-making, machinists, and millwrights (excluding Railway Workshops)	1,642	1,787
Tanning, fellmongering, and wool-scouring establishments	1,629	1,196
Woollen-mills	1,416	1,175
Coach-building and painting works	807	678
Flax-mills	647	3,204
Agricultural implement factories	581	528
Butter and cheese factories	576	269
Breweries and malthouses	560	563
Furniture factories	496	585
Brick, tile, and pottery works	455	494
Biscuit factories	425	331
Grain-mills	419	499
Aërated-water factories	347	261
Gasworks	295	249
Tinware factories	289	93
Saddlery and harness factories	266	184
Chaff-cutting works	212	205
Fruit-preserving and jam-making works	193	117
Soap and candle works	190	209
Sugar refining works	160	110
Rope and twine works	150	222
Sail, tent, and oilskin factories	143	124
Stocking-weaving factories	133	51
Cycle factories	125	31
Bacon-curing establishments	123	84
Match factories	121	..
Coffee and spice works	119	81
Chemical works	114	55
Ship- and boat-building yards	108	145
Waterproof factories	93	..
Brush and broom factories	92	81
Spouting and ridging works	90	100
Ammunition factories	90	80
Paper-bag and cardboard-box factories	86	35
Paper-mills	84	48
Woodenware factories	81	51
Lime and cement works	79	98
Basket and perambulator factories	76	63
Cooperages	76	53
Fish-curing and -preserving works	75	140
Hat and cap factories	72	112
Confectionery works	69	53
Sauce and pickle works	68	41
Cleaning and dyeing works	58	48
Sausage-skin and violin-string factories	56	73
Colonial wine works	53	24
Bone-mills	46	25
Venetian-blind factories	45	29
Rabbit-preserving works	32	..
Graving docks and patent slips	29	64
Sheep-dip factories	29	..

	Number of Hands. 1896.	1891
Starch and soda works	27	13
Textile bag fabrics	22	14
Pumice works	20	..
Industries employing under 20 hands	246	222
	27,389	25,633

The cause of the increase between 1891 and 1896 in the male hands being so low (322) was mainly the crash of the flax industry, and with it a reduction of the rope-making. Under these heads an actual decrease of 2,629 hands is accounted for. Bad times in regard to grain-growing affected the number of persons employed at these mills also, and in the iron-working. But if the figures be analysed, the increases will be found to sum up to 5,201 hands, against 3,445 of decreases; and these last persons did not leave the colony, but took to other pursuits, as is shown by the increased population of the colony in 1896 over that in 1891 (76,702 persons), and the fact that for seven consecutive years New Zealand has not only retained her natural increase, but each year added to population by an excess of arrivals over departures—a most important fact.

Nothing is more common than for a flax-mill hand to take to agricultural work, or for a saw-mill hand to do the same. But such changes move the man or youth out of industrial into farming pursuits in the classification, and manufacturing industries lose, but the group of primary producers gains.

In respect of printing, where a decrease of hands is shown between 1891 and 1896, the business has suffered interference through new machinery being introduced, and some of these men had to take to country work.

The decreases which are important, such as in hands employed at flax- and grain-mills, iron works, and printing, having been accounted for as above, it must be noticed that such items as "sausage-skin and violin-string making," "baking-powder factories," "tobacco factories," with "heel- and toe-plate factories," are the most utterly insignificant matters possible, probably in an experimental condition.

There remain some other lines, by no means of the first importance, and not industries directly connected with the settlement of the country, in which decreases are exhibited; but, as previously stated, the increases altogether outweigh the decreases; and the matter of prices affecting flax and grain industries is one quite beyond control.

As before remarked, the condition of the industries has greatly improved since April, 1896, and a new account will be taken in April, 1901, which, according to present prospects, should give most satisfactory results.

The succeeding statement shows the most important industries in operation in 1896, ranged in order of the values of their output for 1895, and compared with the results obtained for 1890 and 1885:—

	Total Value of all Manufactures or Produce, including Repairs		
	1895.	1890.	1885.
	£	£	£
Meat-freezing and preserving and boiling-down works	1,652,275	1,464,659	543,878
Tanning, fellmongering, and woolscouring	1,237,252	1,026,349	634,915
Sawmills	898,807	832,959	1,177,713
Grain mills	874,656	991,812	754,830
Clothing and boot-and-shoe factories	616,158	570,315	514,506
Butter and cheese factories	501,274	150,957	43,094
Breweries and malthouses	418,830	380,849	421,197
Printing establishments (not including Government Printing Office)	389,124	354,559	273,886
Iron and brass foundries, boilermaking, machinists, &c. (not including Government Railway Workshops)	302,815	403,635	368,919
Woollen mills	302,423	279,175	194,311
Gasworks	199,025	178,947	194,653
Soap and candle works	152,298	155,714	130,745
Coach-building and painting works	148,969	139,660	128,346
Biscuit factories	118,979	127,147	47,784
Agricultural implement factories	102,054	144,472	111,823
Aërated-water factories	98,609	91,691	94,098
Bacon-curing establishments	86,022	83,435	58,799
Furniture factories	85,327	131,314	162,375
Chaff-cutting works	78,497	63,236	54,440
Chemical works	75,320	41,568	34,283
Coffee and spice works	74,339	64,024	98,234
Brick, tile, and pottery works	66,140	56,830	91,797
Saddlery and harness factories	63,735	37,347	..
Tinware factories	63,723	14,297	8,500
Rope and twine works	52,400	76,711	56,413
Fruit-preserving and jam-making works	36,108	27,255	32,292
Confectionery works	33,235	17,248	17,130
Flax-mills	32,546	234,266	20,059
Sail, tent, and oilskin factories	30,166	31,083	25,574
Ship- and boat-building works	25,233	35,847	56,132
Spouting and ridging works	23,762	33,140	25,478
Brush and broom factories	23,363	13,340	7,786
Waterproof factories	22,254	..	..
Cooperages	19,233	11,540	11,862
Cycle factories	18,817	5,655	1,301
Woodenware factories	18,276	9,050	..
Lime and cement works	15,881	19,416	16,928
Sausage-skin and violin-string factories	13,472	10,582	..
Sauce and pickle works	13,417	6,407	3,145
Bone-mills	12,246	4,628	8,337
Basket and perambulator factories	11,920	7,381	4,375
Hat and cap factories	10,902	21,628	13,695
Fish-curing and -preserving works	10,292	19,537	12,182
Baking-powder factories	10,153	5,637	4,120
Venetian-blind factories	9,878	4,776	6,470
Stocking-weaving factories	9,357	5,650	6,200
Sheep-dip factories	9,138	..	..
Colonial-wine works	8,963	3,456	3,626
Paper-bag and cardboard-box factories	7,698	4,497	..
Other industries in respect of which the value of the manufactures was less than £8,000	463,899	380,156	235,148
Totals	£9,549,360	8,773,837	6,711,379

Wages paid at Manufactories or Works.

No attempt was made in 1886 to obtain any account of the wages paid in the factories or large industrial works dealt with in the census returns. But in 1891 the total amount returned for the year 1890 was £1,808,640, and for 1895 the sum was £1,907,592, an increase of £98,952 in the annual payment, or 5·47 per cent.

The average annual amount of wages paid to male hands was £77·27 in 1895 and £75·26 in 1890. For females, £29·87 in 1895 against £34·69 at the previous census. The wages of males would seem to have been more than maintained. In regard to females, possibly a larger proportion of girl labour may have been employed in 1895 than in 1890, which would tend to lower the average rate for females of all ages.

Horse-power, Land, Buildings, Machinery, and Plant.

The increase for the year 1896 over 1891 in the horse-power stated in the returns was 6,400, against 6,205 for 1891, over that for 1886.

The approximate value of the land used for purposes of the factories and industries retired from £1,477,996 in 1886 to £1,286,735 in 1891, and, further, to £1,063,989 in 1896. The value of the lands used for mining is not included in the above figures, and the value of Crown lands has been omitted throughout.

A very satisfactory development will be found in the value of the machinery and plant, from £2,172,852 in 1886 to £2,988,955 in 1896, being at the rate of 14·65 per cent. for the period 1886–91, and 19·98 per cent. for 1891–96. The value of the buildings also increased.

INDUSTRIES IN PROVINCIAL DISTRICTS.

The values of the manufactures for the provincial districts, as returned for 1895 and 1890, were respectively as follow :—

	Value of Manufactures, excluding Mines and Quarries.	
	1895.	1890.
Canterbury	2,629,822	2,056,412
Auckland	2,163,759	2,184,401
Otago	2,153,473	2,078,365
Wellington	1,475,517	1,412,465
Hawke's Bay	507,954	525,394
Taranaki	330,886	155,772
Nelson	142,109	146,020
Marlborough	89,748	161,714
Westland	56,092	53,294

DETAILS OF THE PRINCIPAL INDUSTRIES.

The principal industries returned at the census of 1896, and particulars relating thereto, are given in detail in the following table. These industries are arranged in classes according to their nature :—

Details of the Principal Industries.

Nature of Industries.	Total Number of Industries.	Number of Hands employed.			Wages paid.			Amount of Power employed (Horse-power).	Value of all Manufactures or Produce (including Repairs) for the Year 1895.	Approximate Value of Land, Buildings, Machinery, and Plant.
		Males.	Females.	Total.	To Males.	To Females.	Total.			
					£	£	£	H.-p.	£	£
Meat-freezing and preserving works	30	1,908	52	1,960	175,521	304	175,825	7,326	1,615,219	697,436
Fish-curing and preserving works..	27	74	1	75	3,229	13	3,242	..	10,292	9,729
Bacon-curing establishments ..	37	118	5	123	7,314	80	7,394	49	86,022	22,518
Butter and cheese factories* ..	170	548	28	576	39,716	441	40,157	1,531	501,274	234,006
Grain mills	90	419	..	419	40,890	..	40,890	2,333	874,656	355,847
Biscuit factories	17	345	80	425	18,801	1,355	20,156	134	118,979	58,866
Fruit-preserving and jam-making works	22	103	90	193	5,101	1,450	6,551	77	36,108	18,867
Sugar-boiling and confectionery works	12	39	30	69	2,253	561	2,814	21	33,235	8,925
Baking-powder factories.. ..	10	16	3	19	661	201	862	..	10,153	10,155
Breweries	85	465	..	465	57,327	..	57,327	441	336,734	230,416
Malthouses	31	95	..	95	9,398	..	9,398	59	82,096	37,504
Colonial wine factories	19	41	12	53	1,925	95	2,020	6	8,963	12,832
Aërated-water factories	132	330	17	347	21,184	261	21,445	216	98,609	89,344
Coffee and spice works	18	107	12	119	7,166	293	7,459	82	74,339	31,095
Sauce and pickle factories ..	24	44	24	68	1,835	622	2,457	57	13,417	11,909
Soap and candle works	22	187	3	190	16,882	21	16,903	252	152,298	58,826
Bone mills	15	46	..	46	2,069	..	2,069	220	12,246	9,449
Sausage-skin and violin-string factories	6	56	..	56	3,754	.	3,754	..	13,472	1,500
Boiling-down works	13	77	..	77	4,950	..	4,950	166	37,056	13,615

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* In connection with these were 105 creameries, particulars relating to which are included.

DETAILS OF THE PRINCIPAL INDUSTRIES—*continued*.

Nature of Industries.	Total Number of Industries.	Number of Hands employed.			Wages paid.			Amount of Power employed (Horse-power).	Value of all Manufactures or Produce (including Repairs) for the Year 1895.	Approximate Value of Land, Buildings, Machinery, and Plant.
		Males.	Females.	Total.	To Males.	To Females.	Total.			
					£	£	£	H.-p.	£	£
Cooperages	21	76	..	76	4,250	..	4,250	110	19,233	11,175
Sawmills, sash-and-door factories	299	4,055	4	4,059	323,223	..	323,223	6,409	898,807	586,422
Woodenware factories	19	81	..	81	4,147	..	4,147	124	18,276	13,427
Chaff-cutting establishments ..	52	212	..	212	7,847	..	7,847	344	78,497	42,378
Paper-bag and box factories .	9	41	45	86	2,299	852	3,151	15	7,698	7,956
Gasworks	27	293	2	295	37,747	102	37,849	126	199,025	766,673
Lime and cement works ..	14	79	..	79	5,560	..	5,560	289	15,881	22,419
Brick, tile, and pottery works ..	108	454	1	455	28,179	50	28,229	519	66,140	76,585
Tinware factories	34	288	1	289	19,742	..	19,742	27	63,723	25,849
Iron and brass foundries, boiler-making, machinists, &c.* ..	90	1,639	3	1,642	129,699	64	129,763	1,093	302,815	252,135
Heel and toe-plate factories ..	4	9	..	9	460	..	460	19	1,850	2,371
Spouting and ridging factories ..	9	90	..	90	5,758	..	5,758	24	23,762	19,729
Lead-headed nail works	7	10	2	12	464	30	494	5	2,834	2,325
Printing establishments† ..	154	2,123	228	2,351	204,165	12,137	216,302	532	389,124	396,915
Musical instrument factories ..	5	15	..	15	1,030	..	1,030	4	2,282	6,070
Basket and perambulator factories	17	67	9	76	3,380	299	3,679	5	11,920	10,850

Agricultural implement factories	34	581	..	581	44,581	..	44,581	217	102,054	71,267
Brush and broom factories	15	62	30	92	3,937	793	4,730	20	23,363	9,005
Coach-building and painting works	116	807	..	807	57,377	..	57,377	119	148,969	105,802
Cycle factories	19	125	..	125	5,952	..	5,952	33	18,817	24,831
Saddlery and harness factories	23	249	17	266	15,375	529	15,904	..	63,735	34,559
Tanning, fellmongering, and wool-scouring establishments	117	1,623	6	1,629	116,715	268	116,983	686	1,237,252	171,405
Ship- and boat-building yards	40	108	..	108	6,724	..	6,724	49	25,233	14,288
Graving-docks and patent slips	6	29	..	29	2,785	..	2,785	435	5,422	331,806
Sail and oilskin factories	39	92	51	143	5,660	1,361	7,021	..	30,166	23,623
Furniture factories	71	472	24	496	33,257	787	34,044	127	85,327	84,673
Chair and wash-board factories	6	8	..	8	272	..	272	2	1,277	2,020
Venetian-blind works	15	45	..	45	2,588	..	2,588	14	9,878	7,236
Mattrass factories	5	15	..	15	593	..	593	..	1,850	2,680
Chemical works	7	112	2	114	9,104	62	9,166	121	75,320	44,471
Hæmatite-paint factories	5	11	1	12	407	12	419	45	1,503	3,015
Sheep-dip factories	6	27	2	29	1,290	..	1,290	17	9,138	2,716
Herbal-remedy factories	4	8	2	10	320	50	370	..	2,265	3,410
Woollen mills	9	655	761	1,416	59,583	32,036	91,619	1,400	302,423	223,473
Flock mills	5	10	..	10	264	..	264	44	1,705	2,570
Cleaning and dyeing works	16	33	25	58	1,506	705	2,211	31	7,530	9,980
Clothing, and boot and shoe factories	92	2,059	2,348	4,407	145,693	64,770	210,463	131	616,158	166,739
Hat and cap factories	15	31	41	72	2,437	1,117	3,554	6	10,902	10,560
Stocking-weaving factories	7	1	132	133	25	2,516	2,541	3	9,357	4,565
Waterproof factories	4	15	78	93	1,344	2,540	3,884	2	22,354	5,316
Rope and twine works	24	150	..	150	6,840	..	6,840	280	52,400	40,961
Flax mills	52	645	2	647	17,544	..	17,544	577	32,546	31,359
Other industries	58	463	229	692	35,977	4,739	40,716	1,122	435,381	207,569
Totals	2,459	22,986	4,403	27,389	1,776,076	131,516	1,907,592	28,096	9,549,360	5,796,017

* Not including the Government Railway Workshops.

† Not including the Government Printing Office.

Comparison with Industries in New South Wales and Victoria.

Attention is directed to a statement showing under four different heads comparative results for the principal industries in New Zealand (1896), New South Wales (1895), and Victoria (1894). Mining works are excluded throughout, but for the purposes of this comparison special returns for the Government Printing Office and Railway Workshops, New Zealand, were procured, and the figures included, as is done in the other two colonies.

—	Establishments. Number.	Hands employed. Number.	Horse-power of Engines. H.-p.	Value of Machinery and Plant. £
New Zealand (including Government Railway Workshops and Government Printing Office, but deducting mining works) 1896	2,475	28,598	28,530	3,073,774
New South Wales (1895)	2,409	43,833	42,849	5,855,129
Victoria (1894)	2,675	41,273	30,880	6,640,660

New Zealand shows well as regards number of establishments, but these are evidently not of the magnitude of those in the other two colonies, from the large difference in the number of hands employed and amount of capital invested in machinery and plant. For the year 1891 the figures stood as below:—

Year 1891.	Establishments. Number.	Hands employed. Number.	Horse-power of Engines. H.-p.	Value of Machinery and Plant. £
New Zealand	2,270	26,540	22,148	2,592,993
New South Wales	2,619	46,525	24,909	4,557,022
Victoria	3,296	58,175	30,078	6,604,322

New Zealand would, by the last statement, appear to have made a moderate advance in five years under all four heads of information. For Victoria, the number of establishments and of hands employed are shown as fewer in 1894 than in 1891, but the value of machinery and plant remains about the same. For New South Wales, the establishments and hands are fewer in 1895 than in 1891, but the value of machinery is considerably greater. These comparisons are, probably, by no means closely accurate, but in all probability they are indicative of the true conditions that have obtained, considering the disastrous financial experience of the year 1893 in Australia. The comparisons are shown in respect of each industry in the census report.

SECTION XIII.—TRANSPORT AND COMMUNICATION.

SHIPPING.

THE shipping entered inwards during 1898 comprised 620 vessels, of 765,255 tonnage; while entered outwards were 622 vessels, of 765,793 tons. Comparison with the figures for the previous year shows in the entries an increase of 20 vessels and 78,356 tons, and in the clearances an increase of 35 vessels and 90,460 tons. Of the vessels inwards, 152, of 329,065 tons, were British; 399, of 369,840 tons, colonial; and 69, of 66,350 tons, foreign. Those outwards numbered 150, of 322,150 tons, British; 403, of 377,102 tons, colonial; and 69, of 66,541 tons, foreign. Compared with the figures for 1897 there was an increase of 4 vessels and 29,047 tonnage in colonial vessels entered, and an increase in the British shipping entered of 19 vessels and 53,045 tons. Of the entries, 264, of 132,450 tons, were sailing-vessels, and 356, of 632,805 tons, steamers. Of the clearances, 271, of 135,833 tons, were sailing-vessels, and 351, of 629,960 tons, steamers. The shipping inwards and outwards for ten years is given in the table following:—

VESSELS ENTERED, 1889–98.

Year.	Total Number.			British.			Colonial.			Foreign.		
	Vessels.	Tons.	Crews.	Vessels.	Tons.	Crews.	Vessels.	Tons.	Crews.	Vessels.	Tons.	Crews.
1889 ..	781	602,634	22,649	158	206,825	5,348	547	319,131	14,162	76	76,678	3,139
1890 ..	744	662,769	23,475	190	280,105	6,786	477	298,497	13,598	77	84,167	3,091
1891 ..	737	618,515	21,889	169	265,164	6,817	507	291,800	12,951	61	61,551	2,121
1892 ..	686	675,223	22,038	203	335,577	8,274	411	265,769	11,303	72	73,877	2,461
1893 ..	617	615,604	20,935	166	290,323	7,289	405	272,250	11,745	46	53,031	1,901
1894 ..	609	631,100	21,834	141	271,994	6,456	423	306,547	13,279	45	52,559	2,099
1895 ..	611	672,951	22,074	146	299,667	6,837	420	319,313	13,209	45	53,971	2,028
1896 ..	589	614,097	19,857	126	249,601	5,495	395	300,176	12,210	68	64,320	2,152
1897 ..	600	686,899	21,542	133	276,020	6,086	395	340,793	13,138	72	70,086	2,318
1898 ..	620	765,255	24,081	152	329,065	7,910	399	369,840	13,897	69	66,350	2,274

VESSELS CLEARED, 1889–98.

1889 ..	762	593,252	22,647	160	211,872	5,714	527	307,083	13,762	75	74,297	3,171
1890 ..	745	649,705	23,260	195	284,635	7,168	477	283,735	13,076	73	81,335	3,016
1891 ..	744	625,807	22,080	168	271,533	7,002	515	291,938	12,947	61	62,336	2,131
1892 ..	689	656,100	21,679	189	315,633	7,934	424	263,504	11,241	76	76,963	2,504
1893 ..	635	642,466	21,448	186	317,130	7,839	400	270,308	11,665	49	55,028	1,944
1894 ..	614	631,250	21,934	140	270,464	6,437	432	310,050	13,527	42	50,736	1,970
1895 ..	597	648,946	21,619	134	281,840	6,528	420	315,171	13,068	43	51,935	2,023
1896 ..	592	627,659	20,217	123	259,064	5,637	402	305,926	12,448	67	62,669	2,132
1897 ..	587	675,333	21,409	140	280,229	6,240	378	327,068	12,881	69	68,036	2,288
1898 ..	622	765,793	24,130	150	322,150	7,898	403	377,102	13,948	69	66,541	2,284

NOTE.—Coasting-vessels are not included in the above table.

The figures given apply to the foreign trade only; but in a new country such as New Zealand, as yet deficient in roads, but having an extensive seaboard and a number of good harbours, the coastal trade must be relatively very large, as is evidenced by the figures next given:—

SHIPPING ENTERED COASTWISE, 1898.

	Number.	Tons.
Sailing-vessels ..	4,841	297,329
Steamers ..	15,053	5,598,449

SHIPPING CLEARED COASTWISE, 1898.

	Number.	Tons.
Sailing-vessels	4,683	301,896
Steamers	15,074	5,599,538

The total number of vessels entered coastwise was thus 19,894, of 5,895,778 tons, a decrease of 374 vessels, but an increase of 432,506 tons on the figures for 1897. The clearances coastwise were 19,757 vessels, of 5,901,434 tons, a decrease of 321 vessels, but an increase of 455,285 tons on the number for the previous year.

REGISTERED VESSELS.

The number and tonnage of the registered vessels belonging to the several ports on the 31st December, 1898 (distinguishing sailing-vessels and steamers), was as under:—

REGISTERED VESSELS, 31ST DECEMBER, 1898.

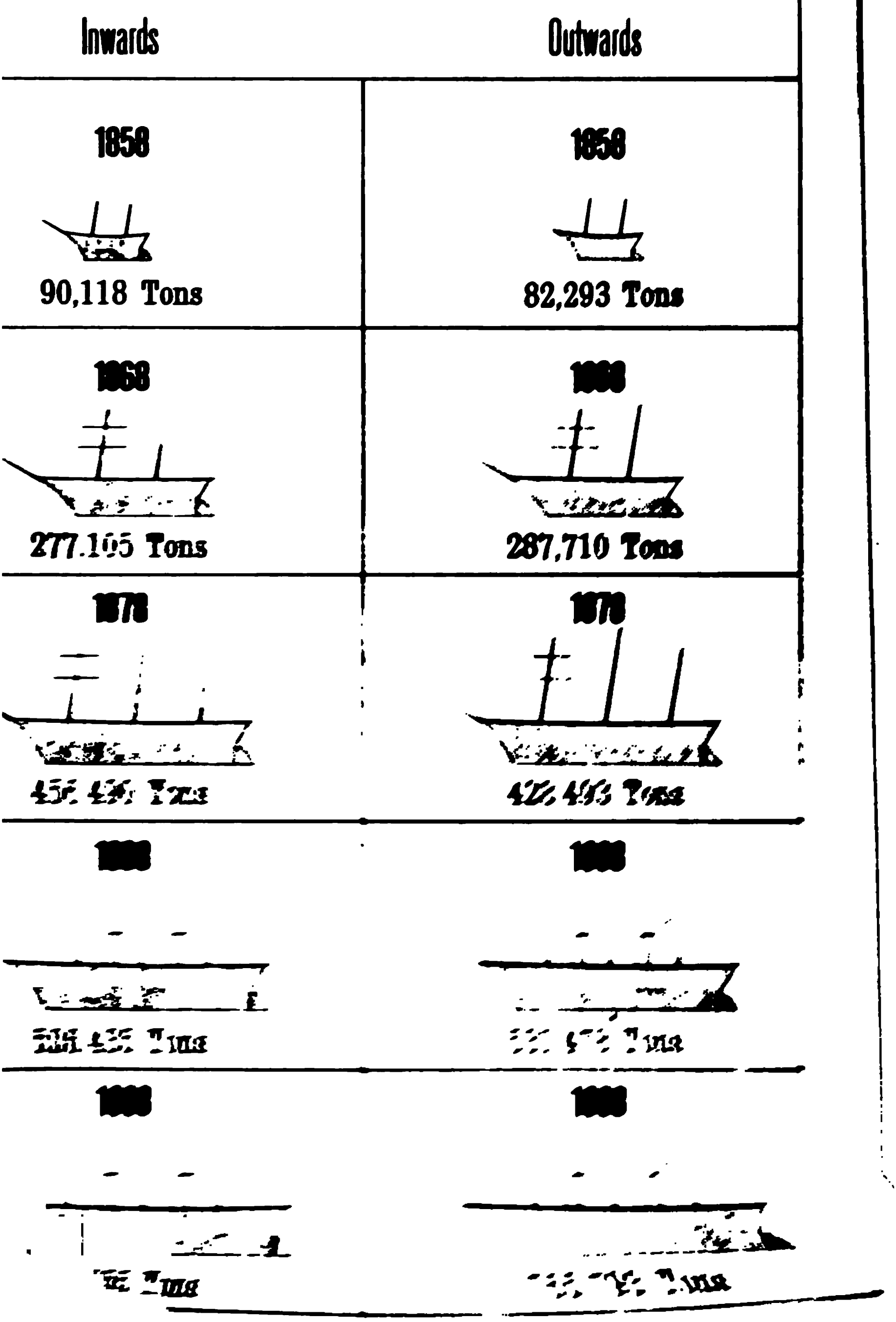
Ports.	Sailing-vessels.			Steam-vessels.		
	Vessels.	Gross Tonnage.	Net Tonnage.	Vessels.	Gross Tonnage.	Net Tonnage.
Auckland	177	13,906	13,377	75	10,181	6,253
Napier	7	778	755	16	1,023	596
Wellington	24	4,531	4,362	23	4,004	2,322
Nelson	11	281	281	10	820	516
Lyttelton	31	5,492	5,364	7	1,170	479
Dunedin	47	12,441	12,301	67	68,818	41,860
Invercargill	20	2,364	2,279	3	304	190
Totals	317	39,793	38,719	201	86,320	52,216

RAILWAYS.

The history and progress of railways in New Zealand was specially described in the Year-book of 1894, as was also the line partly built by the New Zealand Midland Railway Company. An account of the line belonging to the Wellington and Manawatu Railway Company was published in the Year-book for 1895.

The length of Government railways open for traffic on the 31st March, 1899, was 2,090 miles, the total cost thereof having been £16,404,076 (besides £786,891 spent on unopened lines), and the

TONNAGE OF SHIPPING ENTERED INWARDS AND OUTWARDS



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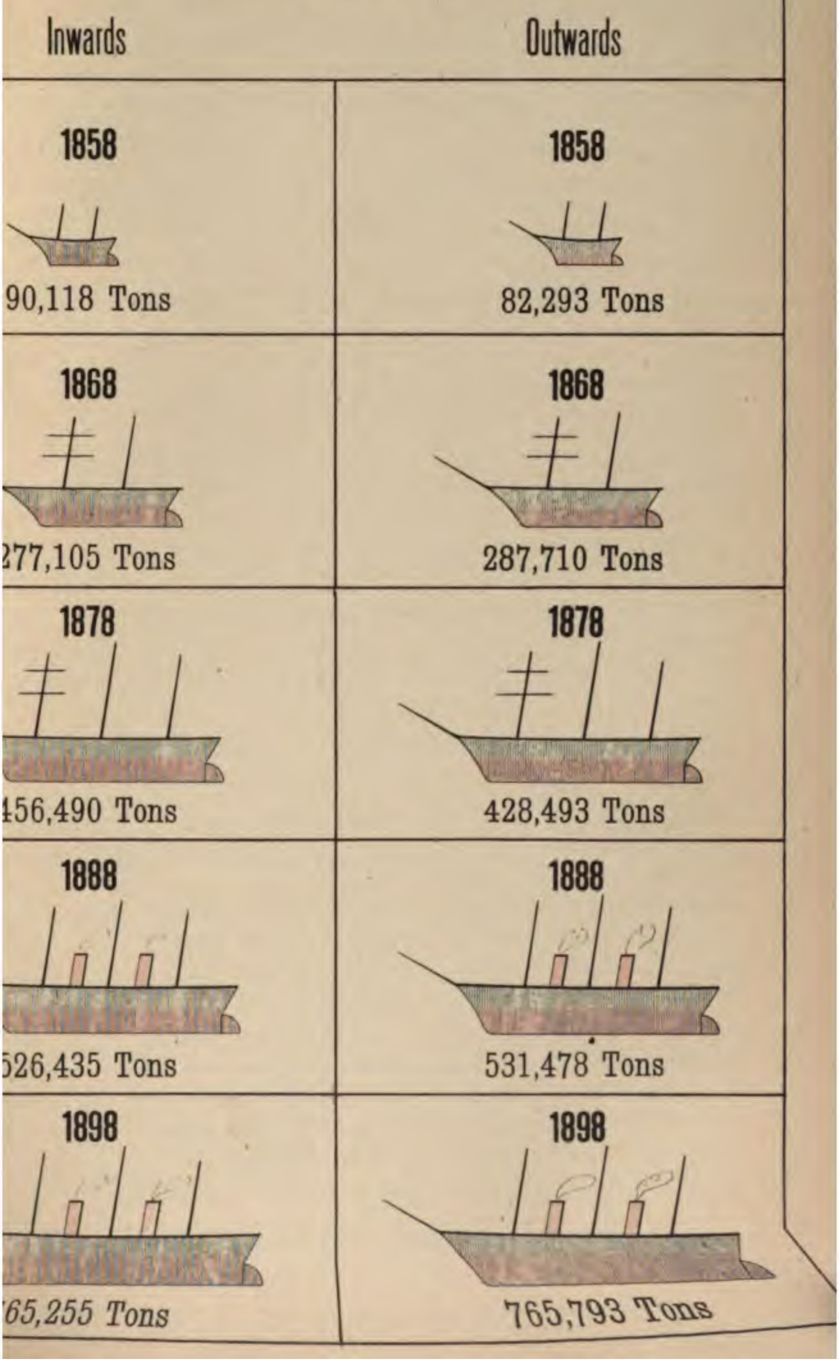

average cost per mile £7,848. The cash revenue for the year 1898–99 amounted to £1,469,665; and the total expenditure to £929,737. The net cash revenue—£539,928—was equal to a rate of £3 5s. 10d. per cent. on the capital cost; the percentage of expenditure to revenue was 63·26. The earnings on some of the lines ranged as high as £5 11s., and even £13 3s. 6d., per cent.

The following statement shows the number of miles of Government railways open, the number of train-miles travelled and of passengers carried, and the tonnage of goods traffic, for the past ten years:—

Year.	Length open.	Train-mileage.	Passengers.	Season Tickets issued.	Goods and Live-stock.*
					Tons.
1889–90	1,813	2,868,203	3,376,459	12,311	2,112,734
1890–91	1,842	2,894,776	3,433,629	13,881	2,134,023
1891–92	1,869	3,010,489	3,555,764	16,341	2,122,987
1892–93	1,886	3,002,174	3,759,044	16,504	2,258,235
1893–94	1,948	3,113,231	3,972,701	17,226	2,128,709
1894–95	1,993	3,221,620	3,905,578	28,623	2,123,343
1895–96	2,014	3,307,226	4,162,426	36,233	2,175,943
1896–97	2,018	3,409,218	4,439,387	43,069	2,461,127
1897–98	2,055	3,666,483	4,672,264	48,660	2,628,746
1898–99	2,090	3,968,708	4,955,553	55,027	2,744,441

The traffic in local products for the past ten years was:—

Year.	Wool.	Timber.	Grain.	Minerals.	Horses and Cattle.	Sheep and Pigs.
	Tons.	Tons.	Tons.	Tons.	Number.	Number.
1889–90 ..	91,214	172,814	498,199	797,117	41,058	1,036,875
1890–91 ..	87,701	153,078	528,683	828,079	44,999	1,313,155
1891–92 ..	85,888	170,521	442,277	873,899	47,618	1,117,253
1892–93 ..	96,842	169,910	523,637	884,031	46,590	1,359,860
1893–94 ..	101,340	183,192	411,191	864,538	51,573	1,394,456
1894–95 ..	103,328	198,578	388,556	857,917	52,075	1,563,213
1895–96 ..	99,363	213,132	374,699	878,659	50,766	1,893,058
1896–97 ..	98,958	257,825	423,888	1,032,252	47,256	2,016,437
1897–98 ..	103,055	313,073	427,448	1,048,868	54,871	2,399,379
1898–99 ..	97,396	310,266	420,071	1,147,353	66,226	2,552,745

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* The equivalent tonnage for live-stock has been given.

The particulars of the revenue and expenditure for the past ten years are given herewith:—

Year.	Passenger Fares.	Parcels Luggage and Mails.	Goods and Live-stock.	Rents and Miscellaneous.	Total	Expenditure.	Net Revenue.	Percentages of Expenditure to Revenue.	Percentages of Revenue to Capital Cost.		
	£	£	£	£	£	£	£		£	s.	d.
1889–90	369,348	37,097	655,007	34,117	1,095,569	682,787	412,782	62·32	2	19	5
1890–91	353,593	38,997	690,779	38,332	1,121,701	700,703	420,998	62·47	2	18	11
1891–92	364,617	41,795	671,469	37,550	1,115,431	706,517	408,914	63·34	2	15	9
1892–93	390,619	44,801	707,785	38,316	1,181,521	732,141	449,380	61·97	3	1	0
1893–94	402,019	45,206	686,469	39,098	1,172,792	735,358	437,434	62·70	2	17	9
1894–95	385,149	43,270	683,726	38,706	1,150,851	732,160	418,691	63·62	2	14	6
1895–96	389,234	54,736	698,115	40,956	1,183,041	751,368	431,673	63·51	2	16	0
1896–97	410,160	58,084	774,163	43,751	1,286,158	789,054	497,104	61·35	3	3	10
1897–98	433,430	60,872	837,589	44,117	1,376,008	857,191	518,817	62·30	3	4	10
1898–99	475,553	66,418	882,077	45,617	1,469,665	929,737	539,928	63·26	3	5	10

NOTE.—For 1895–96 and subsequent years the railways have been credited with the value of services performed for other Government departments, and debited with the value of work done for the railways by other departments.

The average revenue per mile of railway was £711 10s. 2d., and the average expenditure £450 2s. 3d.; equal to 7s. 5d. and 4s. 8d. per train-mile respectively.

The total number of miles travelled by trains was 3,968,708.

In addition to the above railways, there were 167 miles of private lines open for traffic on the 31st March, 1899—namely, the Wellington-Manawatu Railway, 84 miles; the Kaitangata Railway Company's line, 4 miles; and the Midland Railway, 79 miles.

The cost of the construction of the Wellington–Manawatu Railway was £767,665, being at the rate of £9,139 per mile. The term "cost of construction," as applied to railways, includes value of equipment, rolling-stock, &c., not merely the road-line and buildings. The revenue for the twelve months ended the 28th February, 1899, amounted to £86,119, and the working-expenses to £39,310, equivalent to 45·64 per cent. of the revenue.

The traffic return from the opened part of the Midland line for the year ended 31st March, 1899, was £20,204, and the expenditure £20,000, equivalent to 99·99 per cent. of the revenue. The total expenditure on the construction of this line has been about £760,000.

Australasian Railways.

The following statement gives the number of miles of Government railways open for traffic and in course of construction in the Australian Colonies in 1897.

Colony.	Railways (State).					
	No. of Miles of Line open on Dec. 31.	No. of Miles of Line in course of Construction on Dec. 31.	Cost of Construction of Open Lines.	Gross Receipts.	Working Expenses.	Percentage of Net Revenue to Cost.
			£	£	£	%
Queensland.. ..	2,609	97	17,871,445	1,122,637	688,033	2·43
New South Wales ..	2,691¼	78¼	37,719,402	3,026,748	1,614,605	3·75
Victoria (30th June, 1897)	3,129*	..	38,325,517	2,615,935	1,563,805	2·75
South Australia ..	1,724	..	12,669,317	1,020,804	628,172	3·10
Western Australia (30th June, 1898)	992	360	5,047,261	1,019,677	786,318	4·62
Tasmania	424¾	18	3,526,322	166,833	128,544	1·07
New Zealand (31st March, 1898)	2,055	113	15,993,903	1,376,008	857,191	3·24

* Including 17 miles of tramway worked but not owned by the Government Railway Department.

In addition to the Government lines open for traffic in 1898, New South Wales had 84½ miles of private railway; South Australia, 20 miles; Western Australia, 464 miles; Tasmania, 78 miles, 7½ miles of which are worked by Government; and New Zealand, 167 miles.

POSTAL AND ELECTRIC TELEGRAPH.

There were 1,561 post-offices in New Zealand at the end of 1898.

The number of letters, letter-cards, post-cards, books, and pattern-packets, newspapers, and parcels dealt with during the year, compared with the number handled in 1897, was as under :—

	Total Number dealt with.		Increase.
	1898.	1897.	
Letters	34,737,316	32,272,923	2,464,393
Letter-cards.. ..	917,631	757,172	160,459
Post-cards	1,479,964	1,341,821	138,143
Books and pattern-packets	16,618,101	14,627,832	1,990,269
Newspapers	15,095,487	14,261,345	834,142
Parcels	204,603	197,554	7,049

The average number of letters, &c., posted per head of the population in each of the past five years was,—

	1894.	1895.	1896.	1897.	1898.
Letters and letter-cards	38·02†	39·87	40·77	42·98	45·34
Post-cards	1·84	1·73	1·65	1·84	1·90
Books and parcels ..	10·39	12·27	17·19	17·36	19·72
Newspapers	12·94	12·95	13·47	14·10	14·77

The facilities afforded for the transmission of parcels through the Post Office to places within and without the colony have proved of much convenience to the public. The regulations admit of parcels up to 11 lb. in weight being sent to almost all the important countries of the world.

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† Not including letter-cards.

The number and weight of parcels dealt with in 1890, 1895, 1896, 1897, and 1898 are given. The word "parcels" in the preceding table includes the parcels herein mentioned :—

1890.		1895.		1896.		1897.		1898.	
No.	Weight.	No.	Weight.	No.	Weight.	No.	Weight.	No.	Weight.
	Lb.		Lb.		Lb.		Lb.		Lb.
136,327	390,521	176,206	582,193	186,611	654,333	197,554	676,054	204,608	698,301

Owing to the greatly reduced book-post rates a large number of the lighter packets of the classes formerly sent by parcel-post continue to be diverted to the packet- and sample-post. This fact accounts for the small increase in the number of parcels.

The following table shows the number of parcels exchanged with the United Kingdom, the Australian Colonies, &c., in 1897 and 1898 :—

Country.	Number of Parcels.			
	Received.		Despatched.	
	1897.	1898.	1897.	1898.
United Kingdom and foreign offices *viâ* London	15,742	17,823	4,197	4,023
Victoria	3,174	3,292	1,526	1,311
New South Wales	3,521	4,614	1,681	1,779
Queensland	374	343	256	267
South Australia	239	235	179	190
Tasmania	243	143	224	308
Western Australia	185	190	270	236
Samoa	4	17	117	123
Rarotonga	11	5	48	62
Ceylon	150	326	126	145
Straits Settlements	1	..	..	..
Hawaiian Islands	54	42	39	18
Uruguay	..	..	7	15
Vancouver	..	..	..	37
Fiji	..	14	..	27
Totals	23,698	27,044	8,670	8,541

The declared value of the parcels received from places outside the colony was £57,627, on which the Customs duty amounted to £13,302 11s. 4d.

Money Orders and Postal Notes.

The number of offices open for the transaction of money-order business at the end of 1898 was 417.

During 1898, 318,370 money-orders, for a total sum of £1,029,241

7s. 7d., were issued at the various post-offices in the colony. The money-orders from places beyond New Zealand and payable in the colony numbered 23,424, for the amount of £80,665 0s. 8d.

The number of offices open for the sale of postal notes at the end of 1898–99 was 472. 431,449 postal notes were sold, value £139,957 4s. (including £2,871 19s. 1d. commission).

The notes paid numbered 429,193, value £139,476 2s. 6d.

Mail-services.

The cost of the various mail-services between England and New Zealand was, in 1898, as follows:—

San Francisco Service.

	£	s.	d.
Payments—			
Subsidies, &c.	27,245	17	8
Interprovincial and other charges ..	3,658	8	11
	£30,904	6	7
Receipts—			
Postages received from England and the Australian Colonies	10,941	17	2
Postages collected in the colony	10,398	17	9
Penalty for late arrival	..		
	£21,340	14	11
Loss to the colony	£9,563	11	8

Peninsular and Oriental and Orient Lines Services.

	£	s.	.
Payments—			
To P. and O. and Orient Lines	1,476	16	2
Transit across Australia	68	11	4
" European Continent ..	138	18	11
Intercolonial services	635	6	9
	£2,319	13	2
Receipts—			
Postages collected from England and from foreign offices	293	10	9
Postages collected in the colony	1,281	0	0
	£1,574	10	9
Loss to the colony	£745	2	5

Vancouver Service.

	£	s.	d.
Payments—			
Subsidies, &c.	9,369	16	4
Interprovincial and other charges ..	3,651	10	1
	£13,021	6	5
Receipts—			
Postages collected in the colony	5,226	9	0
Penalties for late arrival	1,048	0	0
	£6,274	9	0
Loss to the colony	£6,746	17	5

The total amount of postages collected and contributions received for all these services in 1898 was £29,189 14s. 8d.

The average number of days in 1898 within which the mails were delivered between London and each of the under-mentioned ports in New Zealand was:—

London to—	San Francisco Service.	P. and O. Line.	Orient Line.
Auckland	31·92	38·15	39·96
Wellington	33·08	39·00	40·27
Dunedin	34·54	40·87	40·87
Bluff	35·29	40·12	40·12

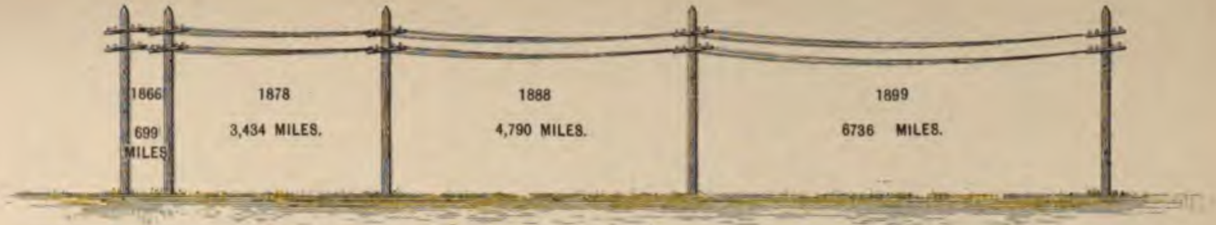
Electric Telegraph.

There were 6,736 miles of telegraph-line open at the end of March, 1899, carrying 18,746 miles of wire. 2,960,738 telegrams were transmitted during the year; of these, the private and Press messages numbered 2,717,548, which, together with telephone exchange and other telegraph receipts, yielded a revenue of £145,294 13s. 7d.

There were eighteen telephone exchanges and thirteen sub-exchanges on the 31st March, 1899. The number of connections increased from 5,787 in March, 1898, to 6,203 in March, 1899. The subscriptions to these exchanges during the financial year amounted to £39,718 7s. 7d.

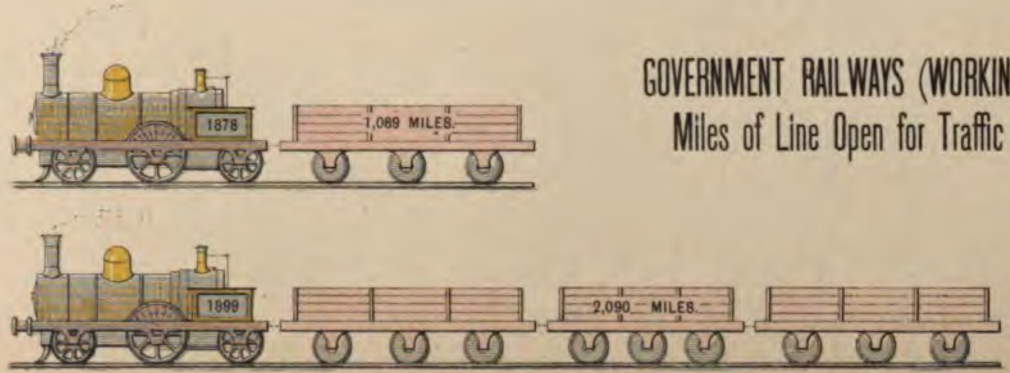
The capital expended on the equipment, &c., of the several telephone exchanges up to the 31st March, 1899, was £150,490 18s. 9d.

Miles of Line Open



GOVERNMENT RAILWAYS (WORKING)

Miles of Line Open for Traffic



NOTE.—There were besides in 1899, 167 Miles of private Lines.

SECTION XIV.—ACCUMULATION: PRICES AND WAGES.

BANKS OF ISSUE.

IN December, 1898, five banks of issue were doing business in New Zealand, the Bank of New Zealand and the Colonial Bank having amalgamated in 1895. Two of the five banks, the Bank of New Zealand and the National Bank of New Zealand (Limited), were wholly New Zealand institutions, with a paid-up capital of £1,250,000, besides which the Bank of New Zealand has £2,000,000 of 4 per cent. guaranteed stock. The Government hold shares to the value of £500,000 in the Bank of New Zealand. The total average liabilities of all five banks for the year 1898 in respect of New Zealand transactions were £15,299,058, and the average assets £17,013,404. The average amount on deposit during the year was £14,143,230, of which sum £670,134 belonged to the General Government. Excluding those belonging to Government, deposits to the value of £7,786,854 were bearing interest, and £5,686,242 at call. The value of the notes in circulation of these banks was £1,070,132.

The development of banking in New Zealand since the year 1857 has been very great. Taking for each year the average of the four quarters' returns made by the banks of issue, the figures for 1857, 1868, 1878, 1888, and 1898 are:—

Year.	Deposits. £	Assets. £	Liabilities. £
1857	343,316	419,860	432,494
1868	3,102,727	5,734,745	3,838,220
1878	8,960,369	15,393,630	10,031,009
1888	11,155,778	18,709,444	12,108,353
1898	14,143,230	17,013,404	15,299,058

In 1878 the deposits of these banks were £21·31 per head of the mean population. In 1888 they were £18·43 per head, and in 1898, £19·21. The ratio of advances to deposits, which was 143·29 per cent. in 1878, reached its maximum in 1883, when it stood at 173·35 per cent. The proportion since that year fell, till in 1897 it was only 76·21 per cent. In 1898, however, the ratio had advanced to 80·52 per cent.

The following figures, which are taken from the published returns for the December quarter of each year, show that the value of the coin and bullion held by all the banks of issue doing business in New Zealand rose steadily from 1891 to 1895, in which year the value stood at £3,333,272:—

Quarter ended 31st December.	Coin.	Gold and Silver in Bullion or Bars.	Total Coin and Bullion.
	£	£	£
1890	2,421,530	169,659	2,591,189
1891	2,231,242	126,346	2,357,588
1892	2,381,319	141,406	2,522,725
1893	2,480,453	121,496	2,601,949
1894	3,103,355	118,121	3,221,476
1895	3,199,889	133,383	3,333,272
1896	3,171,702	122,901	3,294,603
1897	2,848,183	107,635	2,955,818
1898	2,625,896	126,349	2,752,245

Since 1895 there has been a decline, the amount at the end of 1898 being set down at £2,752,245; the figures shown for each quarter of the year 1898 being:—

	Coin.	Bullion.
	£	£
March quarter, 1898	2,734,504	108,035
June „	2,677,259	116,465
September „	2,664,515	111,301
December „	2,625,896	126,349

In 1886 the average amount of advances made by the banks was £15,853,420, equal to £27·23 per head of the mean population The advances gradually declined in amount and proportion to population until 1891, when they were in value £11,549,145, or £18·34 per head. During the years 1892 and 1893, however, there was a rise, but in 1894 a fall to £12,031,537 (£17·71 per head), and in 1897 to £10,892,111, or £15·09 per head, which is the lowest average since the year 1872. In 1898, however, an increase both in the average amount of advances and in the rate per head of population (£11,387,321 and £15·47 respectively) was observed. The discounts in 1898 were less in amount and in rate per head than in any year since 1872. The largest amount of discounts in any year was £6,061,959 in 1879, a rate of £13·53 per head. From 1879 there was a fall year by year until 1896, when the sum was £1,756,791, or £2·49 per head. In 1897 they totalled £1,768,845, but, with a comparatively larger population, the rate per head was only £2·45. In 1898 the amount fell to £1,719,715, and the rate per head to £2·34.

The deposits, as stated in the returns for the March quarters of the years 1898 and 1899, were:—

	£
Deposits not bearing interest, March quarter, 1898	5,786,303
„ „ „ March quarter, 1899	5,769,555
A decrease of	£16,748

in the amount held at call.

The fixed deposits show a reverse movement, and to a greater extent:—

	£
Deposits bearing interest, March quarter, 1898 ..	7,779,326
" " March quarter, 1899 ..	7,837,265
An increase of	£57,939

Besides the above, the Government had with the Bank of New Zealand £935,463 on deposit in March, 1899, as against £745,172 in March, 1898.

Special Banking Legislation.

An Act was passed in 1893 intituled "The Banks and Bankers Act Amendment Act," under which, notwithstanding anything in previous legislation, the shareholders or proprietors of any bank may, from time to time, by extraordinary resolution, authorise its capital to be increased to such an amount and upon such terms as are deemed by them to be expedient. The holders of shares in such increased capital may be granted special privileges notwithstanding anything contained in the charter of the bank.

Any increased capital may be raised by the issue of new shares of such amount as is determined on by extraordinary resolution of the shareholders or proprietors.

The Bank-note Issue Act of the same year provides that notes issued or circulated in the colony by any bank shall, to the amount of the authorised issue, be a first charge on all the assets and property (including the paid-up capital, uncalled capital, and reserve fund—"Banking Act, 1894") of such bank, and that the notes shall be payable in gold only at the office of the bank at the place of issue of the said notes.

The assets and property of a bank are defined as assets for the payment of debts or other obligations contracted or entered upon or due and payable in the colony.

The other clauses (Part II.) of the same Act were originally passed for twelve months only, but their operation was extended in 1894 for another twelve months —viz., till September, 1895. As amended by subsequent enactments, they run as follows: The Governor may declare by Proclamation the notes of any bank named to be a legal tender of money to the amount therein expressed to be payable. The period of time is to be limited by the Proclamation, and no such Proclamation is to be made unless the Governor in Council is satisfied that, as between the bank and its creditors, its assets in the colony exceed its liabilities in the colony. The bank must further pay all such notes in gold on presentation, after expiry of the time limited, at the office of the bank at the place of issue At any time within six months after the period limited by the Proclamation, the Colonial Treasurer, on being satisfied that a bank-note covered by the Proclamation has been presented and not paid, shall pay the same in gold to any *bonâ fide* holder.

On the 29th June, 1894, the Colonial Treasurer introduced in the House of Representatives three Bills relating to banking, which were thereupon passed through all stages and became law forthwith.

The most important of these, intituled "An Act to guarantee out of the Consolidated Fund a Special Issue of Shares by the Bank of New Zealand to the Amount of Two Million Pounds Sterling," provided for the increase of the capital by the issue of shares* to an amount not exceeding two million pounds sterling, in guaranteed shares of ten pounds each, without further liability. These shares are preferential in respect of both capital and dividend, and the liability of the holders of ordinary shares is to secure payment of the guaranteed shares and the dividends thereon. The directors can refuse to register the transfer of ordinary shares. The guaranteed shares are to be called in at the end of ten years, and cancelled on payment of the principal sum with accrued dividend. The rate of dividend on preferential shares is not to exceed 4 per cent. per annum, and is to be paid by the bank. The guaranteed or preferential shares and dividends thereon are to be a charge upon and, in case of default by the bank, payable out of the Consolidated Fund of the colony; but if at any time any money shall be payable under the guarantee, the assets and property of the bank are to be security for the repayment of money so advanced; if the money be not repaid, the Colonial Treasurer may appoint a Receiver.

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* By further Amendment Act these shares were to be issued in the form of negotiable stock certificates or warrants to bearer, of such amounts as the directors may determine. The certificates with warrants or coupons are transferable by delivery. The holders of stock certificates or warrants may exchange these for registered stock, which is made transferable in such amounts as directors may sanction. Shares or stock may be held by any person without limit as to number, provided that the total value does not exceed two millions sterling.

One-half of the sum of two million pounds authorised by the Act to be raised is to be at the disposal of the bank for use in its ordinary business, and the remainder is to be invested as the Colonial Treasurer may approve, or as may be specially provided by law. Until the guaranteed shares are called in and cancelled, no dividend is to be paid to ordinary shareholders without the consent of the Colonial Treasurer, who is empowered to satisfy himself that any proposed dividend will not unduly affect the security of the colony in respect of the guarantee.

By section 5 of the Act, the Colonial Treasurer might require the directors to call up £500,000, being one-third of the reserve capital, within twelve months, and this has accordingly been done.

As provided by the Act, the head office of the bank was removed to Wellington, and a new Board of directors elected. The Governor in Council appointed a President (*office since abolished under Act of 1898, see* post), and an Auditor of the business outside the United Kingdom. An Auditor of the business within the United Kingdom was appointed by the Agent-General.

The shares held in the Bank of New Zealand Estates Company (Limited) by the bank are, pending the completion of liquidation, to be treated in valuing as at par.

"The Bank Shareholders Act, 1894," provided that the directors of any bank may decline to register any transfer of shares upon which there is any liability made by a shareholder to any person of whose responsibility they may not be satisfied. "The Bank Directors and Shares Transfer Act, 1894," gave authority to directors to refuse approval, without assigning reasons, to any transfer of shares on which there is liability. It limited the number of directors to not less than five or more than seven. (See subsequent legislation in 1898 as to directory.)

"THE BANK OF NEW ZEALAND AND BANKING ACT, 1895," AND ITS AMENDMENT ACT.

This Act was passed on the 4th of September, 1895. It provided for writing off the paid up capital of the Bank of New Zealand (£900,000), together with the proceeds (estimated at £450,000) of the first call of £3 6s. 8d. on the reserve liability of £10 per share.

A sum of £500,000 new capital is raised by preferred shares, and issued to the colony in exchange for Government securities. The preferred shares bear interest at 3½ per cent. The bank may within six years repurchase them at par. Further share capital is created by a second call of one-third of the reserve liability (£3 6s. 8d. per share) in four instalments, and the final third may be called up at any time after the 31st December, 1898. The sum of one million pounds, required by the Share Guarantee Act of 1894 to be invested as the Colonial Treasurer might approve, is released for employment by the bank in its ordinary business. So long as the colony remains liable under the Act, one of the directors of the bank is to be appointed by the Governor, and one of the present directors is to resign to make way for the Government appointee. (See subsequent legislation in 1898 as to directory.)

An Assets Realisation Board is established to purchase all the assets of the Estates Company, and of the Auckland Agricultural Company, for the sum of £2,731.706, being the estimated value of the properties on the 31st of March, 1895, subject, however, to an adjustment of station accounts, the purchase-money to be paid in debentures issued by the Assets Board, having a nine years' currency and bearing interest at 3½ per cent. per annum from the 31st March, 1895, any deficiency to be guaranteed by the Government as a charge upon the Consolidated Fund of the colony.

Provision is made for securing the Government against loss on account of this guarantee, and the Colonial Treasurer may, in the event of any deficiency, appoint a Receiver in respect of the securities with the powers of a liquidator appointed by the Supreme Court. The Assets Realisation Board is a body corporate, consisting of three members, two appointed by the Governor and one chosen by the directors of the bank.

Section 3 of "The Banking Act, 1894," is repealed, and power is given to the Bank of New Zealand to purchase the business and assets of any other bank doing business in the colony, excepting such assets as are found to be bad, doubtful, or valueless. Any such purchase is conditional on ratification by the shareholders of the selling bank and the approval of Parliament. [*The business of the Colonial Bank of New Zealand has since been purchased under the authority given, the contract being approved under the Amendment Act of 1895, section 3, and subsequently ratified by the shareholders of the selling bank.*]

So long as the colony remains in any measure liable under the Act, or the Share Guarantee Act of 1894, the proprietors of the bank may not take any steps towards winding up or dissolving the bank.

The Assets Board are to draw up a balance-sheet every six months, and lay the same before Parliament.

"The Bank of New Zealand and Banking Act, 1898."

Consequent on the report of a Committee of the House of Representatives appointed to make inquiries respecting the affairs of the Bank of New Zealand, a statute was passed in 1898 bearing the above title.

It provides for a Board of Directors consisting of six persons, instead of five, of whom four are appointed by the Governor in Council and two elected by the shareholders of the bank.

The office of President is abolished, with its power of veto; while the old constitution of the Board, under which the President and one director only were appointed by the Governor in Council, and three by the shareholders, gives way to the new one.

Of the four members in the new Board who are appointed by the Governor in Council, two retire on the 31st March, 1901, the retiring directors being decided by lot amongst the four. On the 31st March, 1902, and on the same day in each subsequent year, the two members who have been longest in office retire. The ordinary time of office of the four members is thus two years.

The two directors elected by the shareholders of the bank hold office for an ordinary term of two years, subject to the provision that one is to retire on the 31st March, 1901, it being decided by lot between the two which is to retire.

On the above-named day in 1902, and the same day in each subsequent year, the member who has been longest in office retires.

Provision was made for offering the retiring President of the old Board a sum of £4,500 by way of compensation, leaving it open to him to decline, with power of instituting proceedings to recover damages for wrongful removal from office. [The President has since retired, and is now one of the directors elected by the shareholders.]

The remuneration of the new Chairman and directors is £2,000 per annum, which they divide amongst themselves, in shares fixed by resolution of the Board.

There are sundry provisions as to the voting at meetings, and a carefully limited power of veto in respect of resolutions passed by shareholders, under certain circumstances, is given.

Amongst other various matters provided for, it may be mentioned that the Governor in Council may appoint an Assistant Auditor. The Chief Auditor is given the right to attend meetings of the Board, and empowered to suspend the operation of any act or proceedings until the Board has had an opportunity of considering the same at a future meeting.

SAVINGS BANKS.

The number of post-offices open for the transaction of savings-bank business at the end of 1898 was 405.

There were 37,265 new accounts opened in the year, and 26,628 accounts were closed. The total number of open accounts at the end of 1898 was 169,968.

The deposits received during the year amounted to £3,279,611 7s. 5d., and the withdrawals to £3,194,893 16s. 7d., the excess of deposits over withdrawals having thus been £84,717 10s. 10d. The total sum standing at credit of all accounts on the 31st December, 1898, was £4,957,771 5s. 5d., which gave an average of £29 3s. 5d. to the credit of each account.

The following were the securities, &c., standing in the name of the Postmaster-General on account of the Post-Office Savings-Bank Fund on the 31st Decmber, 1898:—

Description of Securities, &c.	Nominal Value.			Value at Cost Price.		
	£	s.	d.	£	s.	d.
"Aid to Public Works and Land Settlement Act, 1896," Debentures at 3½ per cent. ..	250,000	0	0	250,000	0	0
"Aid to Public Works and Land Settlement Act, 1896," Debentures at 3 per cent. ..	35,000	0	0	35,000	0	0
"Consolidated Loan Act, 1867," Debentures, 4 per cent.	1[illegible],000	0	0	12,480	0	0
"Consolidated Stock Act, 1884," Debentures, 3½ per cent.	54,300	0	0	54,300	0	0
"Defence and other Purposes Loan Act, 1870," Debentures, 4 per cent.	75,000	0	0	72,000	0	0
"Defence and other Purposes Loan Act, 1870," Debentures, 4½ per cent.	8,100	0	0	8,100	0	0
District Railways Purchasing Acts, 1885–86, Debentures, 4 per cent.	42,000	0	0	36,076	17	8
District Railways Purchasing Acts, 1885–86, Scrip, 4 per cent.	34,100	0	0	34,100	0	0
Dunedin Garrison Hall Debentures, 5 per cent.	6,000	0	0	6,000	0	0
"General Purposes Loan Act, 1873," Debentures, 4 per cent.	5,200	0	0	4,342	0	0
"Government Loans to Local Bodies Act, 1886," Debentures, 3½ per cent.	231,000	0	0	231,000	0	0
Greymouth Harbour Board Debentures, 4 per cent	100,000	0	0	100,000	0	0
Hamilton Borough Debentures, 5½ per cent...	3,000	0	0	3,000	0	0
Hokitika Harbour Board Debentures, 5 per cent.	10,000	0	0	10,000	0	0
"Immigration and Public Works Loan Act, 1870," Debentures, 4 per cent.	174,200	0	0	167,272	0	0
'Immigration and Public Works Loan Act, 1870," Debentures, 4½ per cent.	20,900	0	0	20,527	10	0

Description of Securities, &c.	Nominal Value.			Value at Cost Price.		
	£	s.	d.	£	s.	d.
"Immigration and Public Works Loan Act, 1870," Debentures, 4 per cent. (Imperial guaranteed)	400,000	0	0	400,000	0	0
Inscribed Stock, 3 per cent.	1,707,140	0	0	1,707,140	0	0
Land for Settlements Acts, 1892 and 1894, Debentures, 4 per cent.	129,100	0	0	129,100	0	0
"Land for Settlements Act, 1894," Debentures, 3½ per cent.	376,690	0	0	376,690	0	0
"Land for Settlements Act, 1892," Debentures, 4½ per cent.	45,276	0	0	45,276	0	0
"Lands Improvement and Native Lands Acquisition Act, 1894," Debentures, 4 per cent.	264,000	0	0	264,000	0	0
"Lands Improvement and Native Lands Acquisition Act, 1894," Debentures, 3½ per cent.	35,000	0	0	35,000	0	0
"Native Land Purchases Act, 1892," Debentures, 4½ per cent.	125,000	0	0	125,000	0	0
North Rakaia River Board Debentures, 5 per cent.	1,000	0	0	1,000	0	0
Oamaru Borough Consolidated Loan 1893 Debentures, 5 per cent.	13,800	0	0	13,800	0	0
Oamaru Harbour Bonds, 5½ per cent. ..	32,000	0	0	32,000	0	0
Patea Harbour Board Debentures, 4½ per cent.	10,000	0	0	10,000	0	0
Thames Borough Debentures, 6 per cent. ..	6,500	0	0	6,500	0	0
Thames Harbour Board Debentures, 4 per cent.	10,000	0	0	10,000	0	0
"Public Revenues Act, 1893" (Treasury Bills), 3½ per cent.	349,200	0	0	349,200	0	0
Westport Harbour Board Debentures, 4 per cent.	421,050	0	0	421,050	0	0
Totals	4,987,556	0	0	4,969,954	7	8

There are seven* savings-banks in the colony not connected with the Post Office. The total amount deposited in them in 1898 was £504,153 11s., of which the deposits by Maoris comprised £20. The withdrawals reached the sum of £514,173 1s. 7d., exceeding the total deposits by £10,019 10s. 7d. The total amount to the credit of the depositors at the end of the year was £789,116 1s. 6d., of which sum £91 1s. 3d. belonged to Maoris.

SUMMARY OF ALL DEPOSITS.

If the total deposits at the end of the year be assumed to be equal to the average for the last quarter, then it may be affirmed that, exclusive of Government moneys, the deposits in the several banks of issue and in the two classes of savings-banks amounted at the end of 1898 to £18,974,201. In addition, there are the deposits with building societies, which in 1897 were £189,283, and it is known that there were also deposits with financial companies, of which no particulars have been supplied to the department. The known deposits reach an average of £25 15s. 6d. per head of the population, exclusive of Maoris.

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* One in liquidation since 31st March, 1898.

BUILDING SOCIETIES.

There were 68 registered building societies in operation in the colony at the end of 1897. Of these, 30 were terminable societies, the rest were permanent.

The total receipts by these societies during their financial year were £568,516, of which deposits comprised £175,744.

The assets at the end of the year were valued at £937,587. The total liabilities were: To shareholders, reserve fund, &c., £734,446; to depositors, £189,283; and to bankers and other creditors, £13,858.

FRIENDLY SOCIETIES.

The Registrar of Friendly Societies received returns for the year 1897 from 388 lodges, courts, tents, &c., of various friendly societies throughout the colony. The number of members at the end of 1897 was 32,670.

The total value of the assets of these societies was £637,011, equivalent to £19 10s. per member. Of the total assets, the value of the sick and funeral benefit funds was £583,924.

The receipts during the year on account of the sick and funeral funds amounted to £75,698, and the expenditure to £54,124, of which the sick-pay to members reached the sum of £33,419. In addition to the sick-pay, the sum of £30,391 was paid out of the medical and management expenses fund for attendance given and medicine supplied to the members and their families.

MORTGAGES.

In a return to an order of the House of Representatives last session it is stated that, during the year ended 31st March, 1898, mortgages to the value of £6,702,081 were registered in the several land registration districts of the colony, while the monetary value of those paid off amounted to £5,516,598. Compared with a somewhat similar return for the year 1895–96, the mortgages registered show an increase of £1,128,291, the total amount for the earlier year having been £5,573,790.

The total amount represented in the mortgages registered and paid off in each registration district during 1897–98 was :—

District.	Amount of Mortgages Registered.	Amount of Mortgages Paid off.
	£	£
Auckland	845,674	718,152
Gisborne	388,530	182,902
Taranaki	486,852	306,974
Hawke's Bay	634,842	503,076
Wellington	1,768,207	1,094,234
Marlborough	67,129	49,882
Nelson	181,564	124,004
Westland	20,570	8,045
Canterbury	1,359,140	1,615,641
Otago	519,641	648,310
Southland	429,932	265,378
Totals	£6,702,081	£5,516,598

Classified according to the various rates of interest, the amounts in the mortgage deeds registered in 1897–98 were :—

	Amount. £	Rate of Interest.
Year 1897–98	43,341	at 4 per cent or under.
	994,703	at 4½ per cent.
	179,294 (*a*)	at 4¾ per cent.
	2,029,506	at 5 per cent.
	451,525 (*b*)	at 5½ per cent.
	823,930	at 6 per cent.
	237,126 (*c*)	at 6½ per cent.
	363,854	at 7 per cent.
	33,866 (*d*)	at 7½ per cent.
	214,669	at 8 per cent.
	75,750	at 8½ per cent. and over.
	1,254,517	at rates not specified.
	£6,702,081	

(*a*.) Including £1,250 at 4⅘ per cent. (*b*.) Including £13,210 at 5¼ per cent., £1,800 at 5⅓ per cent., and £1,715 at 5¾ per cent. (*c*.) Including £483 at 6¼ per cent., £900 at 6⅓ per cent., £150 at 6⅜ per cent., £900 at 6⅗ per cent., and £15,775 at 6¾ per cent. (*d*.) Including £6,000 at 7¼ per cent.

Comparison of the foregoing with the amounts at the various rates of interest in the mortgages registered during 1895–96 shows the lowering of the rates that has taken place :—

	£	
Year 1895–96	26,285	in small sums at less than 5 per cent.
	833,226	at from 5 per cent. to 5¼ per cent.
	732,764	at 5½ per cent.
	116,600	at 5¾ per cent.
	1,372,261	at from 6 per cent. to 6¼ per cent.
	371,896	at from 6½ per cent. to 6¾ per cent.
	599,542	at from 7 per cent. to 7¼ per cent.
	111,651	at 7½ per cent.
	382,348	at 8 per cent.
	173,416	in small sums, at rates above 8 per cent.
	853,801	at rates which are not specified.
	£5,573,790	

LIFE INSURANCE.

There were existing in the colony at the close of the year 1897 as many as 75,692 life insurance policies, an average of nearly 104 in every 1,000 persons living. The gross amount represented by these policies was £19,723,970, an average of £261 2s. 2d. for each policy, and of £27 1s. 1d. for every European inhabitant of the colony at the end of the year.

The distribution of these policies among the various life assurance offices is shown in the following table, by which it will be seen that nearly one-half are held in the Government Life Insurance Department, respecting which institution a special article will be found in Part III. of this book.

Name of Office.	Number of Years of Business in the Colony.	New Zealand Business only.	
		Number of existing Policies at End of Year 1897.	Gross Amount insured by Policies at End of Year 1897.
			£
The Australian Mutual Provident Society	36	23,282	6,640,252
The Citizens' Life Assurance Company (Limited)	4	1,112	147,025
The Colonial Mutual Life Assurance Society (Limited)	14	4,104	1,090,936
The Equitable Life Assurance Society of the United States	13	743	320,482
The Mutual Life Association of Australasia	21	4,217	1,100,641
The National Mutual Life Association of Australasia (Limited)	18	5,908	1,363,638
The New York Life Insurance Company	11	152	58,395
The Life Insurance Department of the New Zealand Government	28	36,174	9,002,601
Totals, December, 1897 ..	..	75,692	£19,723,970
Totals, December, 1896 ..	..	72,193	£19,097,455

The rate at which life insurance increased is evidenced by the difference between the amounts insured at the end of each of the two years 1896 and 1897, being a sum of £626,515, or 3·28 per cent. for a period in which the population increased by 2·09 per cent.

INDUSTRIAL LIFE ASSURANCE.

In addition to the ordinary life insurance transactions alluded to above, there were in 1897 two industrial life assurance offices doing business in New Zealand. The number of policies in existence and the gross amount insured by such policies at the end of the year were:—

Name of Office.	Number of Years of Business in the Colony.	New Zealand Business only.	
		Number of existing Policies at End of Year 1897.	Gross Amount insured by Policies at End of Year 1897.
			£
The Citizens' Life Assurance Company (Limited)	4	12,891	331,544
The Provident and Industrial Insurance Company of New Zealand	8	7,817	182,363
Totals, December, 1897 ..	..	20,708	£513,907
Totals, December, 1896 ..	..	18,177	£437,940

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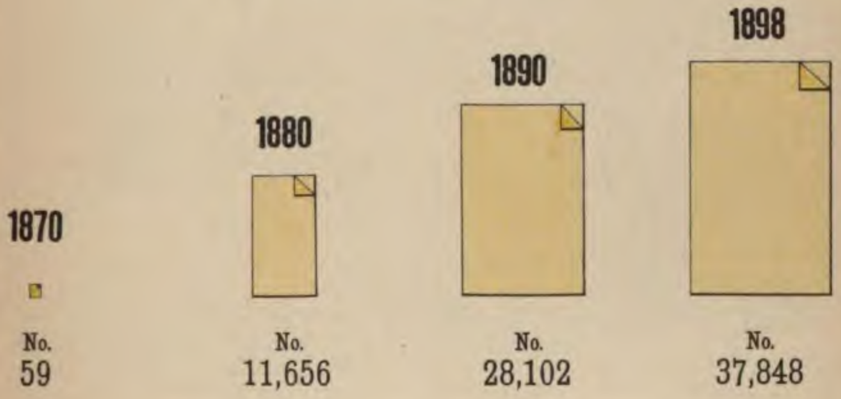
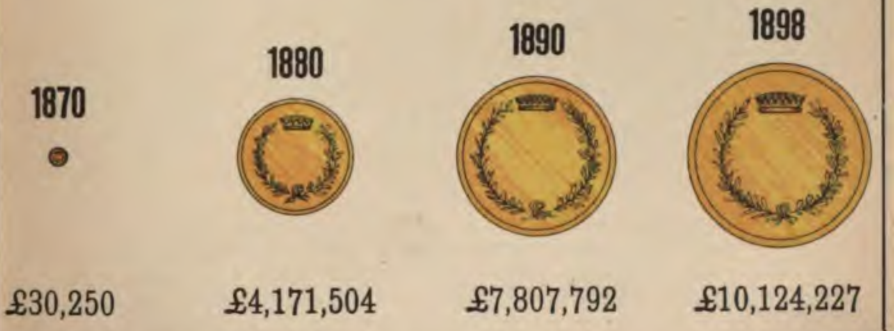
GOVERNMENT LIFE INSURANCE DEPARTMENT OF NEW ZEALAND.

Number of Policies in force on the 31st December of the under-mentioned Years.



Sums Assured and Bonuses on the 31st December of the following Years.



Here a rise of £75,967, or 17·35 per cent., is found to have taken place in twelve months.

THE PUBLIC TRUST OFFICE.

This institution is described in the Year-book for 1898. The number of estates in it increased from 1,678 in 1890 to 2,491 in 1899, while the total value rose from £1,240,097 to £2,110,316 during the same period.

Classifying the business as on the 31st March, 1899, the results are:—

	Number of Estates.	Value of Estates.
		£
Wills and trusts (including sinking funds accounts)	538	865,446
Intestate estates	821	133,409
Real estates	79	8,414
Lunatic estates	507	111,793
Native reserves	115	357,500
West Coast Settlement Reserves ..	293	620,000
Unclaimed lands	138	13,754
Total	2,491	£2,110,316

PRIVATE WEALTH.

The number and value of estates of deceased persons finally certified, on which duty was paid during the years 1896, 1897; and 1898 are shown, classified according to amount:—

Value of Estates.	1896.		1897.		1898.	
	Number of Estates.	Aggregate Value on which Duty was Paid.	Number of Estates.	Aggregate Value on which Duty was Paid.	Number of Estates.	Aggregate Value on which Duty was Paid.
£ £		£		£		£
100 to 500 ..	431	123,283	672	126,146	714	147,280
500 „ 1,000 ..	160	112,430	171	120,438	219	157,709
1,000 „ 2,000 ..	113	159,416	108	153,708	151	214,650
2,000 „ 3,000 ..	45	107,940	39	95,904	76	186,749
3,000 „ 4,000 ..	20	68,656	39	132,793	31	106,097
4,000 „ 5,000 ..	10	45,816	19	85,781	24	107,117
5,000 „ 7,500 ..	19	112,335	32	197,396	20	121,253
7,500 „ 10,000 ..	17	145,472	13	114,477	12	101,264
10,000 „ 15,000 ..	14	163,840	13	156,020	21	254,756
15,000 „ 20,000 ..	8	139,988	12	199,686	6	100,395
20,000 and over ..	18	987,180	10	598,392	13	784,116
Totals ..	855	2,166,356	1,128	1,980,741	1,287	2,281,386

The number of estates admitted to probate, and the number of adult deaths in each year, 1894 to 1898, are given, and it will be seen that no less than 27 out of every 100 adults who died during the year 1898 left property subject to estate duty.

Year.	Number of Estates.	Number of Adult Deaths.	Proportion per Cent. of Adults who died leaving Property on which Duty paid.
1894	609	4,148	14·68
1895	767	4,033	19·02
1896	855	3,944	21·68
1897	1,128	4,258	26·49
1898	1,287	4,696	27·41

On these data an attempt has been made to compute roughly the total value of private property in the colony. This method of estimating the private wealth of a people by means of the probate returns may not be strictly accurate, and is indeed strongly objected to by some statisticians, but it was nevertheless selected by the late Professor Mainwaring Brown as the best and most trustworthy plan.

Calculations of the wealth of the living on the proportional basis of amounts left by the dead have not been considered satisfactory in some of the Australian colonies, but in New Zealand, where wealth is more evenly distributed, the results have proved fairly comparable year by year, and the method can be used with a greater degree of confidence. Dividing the aggregate amount admitted to probate during a series of years by the number of *deaths* occurring within the same period, the average value of property left by each person dying is obtained. On the assumption that the average wealth owned by each person living is equal to that left by each person dying, the total aggregate private wealth may readily be found. For a calculation of this kind it is necessary to take the average results for a series of years, as any inference drawn from the figures of a single year would be untrustworthy; for an increase in the death-rate must necessarily give a corresponding decrease in the estimated wealth, unless the value of estates admitted to probate maintains year by year the same ratio to the number of deaths. An epidemic among young children who have no property to leave would unduly lower the average; while, on the other hand, the deaths of a few wealthy persons would raise it abnormally. It must also be remembered, when using these figures for comparative purposes, that the lowness of the death-rate in New Zealand is in great measure due to the small mortality among infants. By putting the figures for several years together, and taking the average for the term, results may be arrived at, thus:—

Years, inclusive.	Amount sworn to.	Total Number of Deaths.	Average Amount left by each Person.	Average Number of Persons living.	Average Total Wealth for each Year of the Period.
	£		£ s. d.		£
1894–98	9,213,254	34,052	270 11 3	707,266	191,360,718

It is manifest, however, that this average does not exhibit with sufficient accuracy the actual *present* amount of wealth. If the average amount per head were the same at the end of the year 1898 as for the period 1894–98—viz., £270·564—then the total wealth possessed by the 743,463 persons in the colony on the 31st December of that year would be £201,154,323.

These figures, however, fall short of the full amount of private wealth, as the values sworn to do not include those estates on which no stamp duty is payable—viz., land and goods passing to the husband or wife of the deceased, and a great number of properties under £100. The aggregate value of such estates must be considerable, and should give a substantial increase to the average amount per head, and therefore to the total wealth.

The estimated private wealth for each of ten years is shown by the following figures :—

Year.	Amount. £	Average per Head. £
1889	133,135,134	215
1890	142,631,461	228
1891	145,780,502	230
1892	152,065,087	236
1893	156,058,273	232
1894	154,715,821	225
1895	152,918,021	219
1896	170,007,843	238
1897	183,781,780	252
1898	201,154,323	271

The Government Statistician of New South Wales estimated the private wealth of the seven colonies of Australasia for the year 1890 at £1,169,434,000.

In the year 1885 the property-tax returns gave £40,304,000 as the value of public property in the colony, including Crown lands, educational, municipal, and other reserves, with public works—namely, railways, telegraphs, lighthouses, buildings, harbour-works, and water-supply on goldfields. In 1888 the value of the above had risen to £42,505,000, and it is supposed that in 1895 the sum would probably have been about £45,000,000. There are also from nine to ten millions of acres of lands the property of the Maoris. In 1888 the Native lands were valued at £3,000,000 sterling. The present value is probably not so much; some land has been sold, but, on the other hand, some of that retained may have increased in value.

Earnings and Income.

The amount of the aggregate annual earnings of the people of New Zealand is given in the Year-book of 1897 (p. 283). To arrive at this estimate the method adopted was to allot to each person the probable income earned in respect of the occupation set down against his or her name in the household schedules collected at the census of 12th April, 1896. Exception may no doubt be taken to the plan of basing a calculation on a series of arbitrary assumptions, but there is precedent for such a course. The results of the calculation were given without any guarantee of accuracy, similar figures having been called for in the past. Indeed it is important to make clear that the figures must only be considered as put forward with the greatest diffidence, and rather of necessity than otherwise. They may indeed give a fair idea of the facts, but the responsibility of using them for any particular purpose is not accepted by the Registrar-General.

WAGES.

The aggregate of wages paid in the colony for the year 1896, as given in the Year-book of 1897 (p. 284), was arrived at by assigning to each wage-earner the probable annual income each would derive from the profession or occupation followed. As in the case of income, the calculations made were put forward merely by way of an attempt to get as closely as possible to the facts, and because asked for; but no assurance whatever can be given as to the exactness of the conclusions stated, and the Registrar-General does not accept any responsibility in regard to their use.

COST OF LIVING.

An estimate was made in 1894 of the cost of living in New Zealand, including, besides what was spent on necessaries, the additional outlay on what may be termed luxuries, and on things of occasional necessity. The rate arrived at per head of population was £35 6s. 1d. per annum for that year. Fuller particulars are given in former issues of the Year-book.

The average income per head previously referred to was believed to be from £37 12s. to £44 per annum.

Mr. Mulhall, in his "Dictionary of Statistics," gives the average expenditure per head of population for various countries specified as follows:—

Country.	Average Annual Expenditure per Head.		
	£	s.	d.
United Kingdom	29	14	9
France	23	19	4
Germany	20	3	4
Russia	10	1	11
Austria	14	4	9
Italy	11	11	0
Spain	15	12	6
Portugal	11	5	6
Sweden	20	8	4
Norway	19	0	0
Denmark	28	11	5
Holland	20	17	4

Country.	Average Annual Expenditure per Head.		
	£	s.	d.
Belgium	25	8	2
Switzerland	18	0	0
United States	32	16	2
Canada	23	6	2
Australia	33	10	3
Argentina	27	9	1

The estimate for Australasia, as made in 1894 by Mr. Coghlan, then Government Statistician of New South Wales, was as high as £43 12s. 10d. per head.

Annual Consumption of Food, Stimulants, etc.

The quantities used per head of population in New Zealand of some of the main articles of consumption will be found in the Year-book for 1898. The figures are averages for five years.

Prices and Wages.

The average prices of produce, live-stock, provisions, &c., in each provincial district are given for the year 1898 in tabular form on pages 304 and 305. While the variations for the different districts are such as to render it in most cases inadvisable to show averages for the colony, this has nevertheless been done for the staples of food, *i.e.*, bread, meat, and milk, also for tea and sugar, which may almost be called necessaries. Averages for the colony, taken out for the years 1878, 1888, and 1898, indicate generally a decline in prices with the advance of time. In striking these, prices on the goldfields have not been taken into account:—

—		1878.	1888.	1898.
		s. d.	s. d.	s. d.
Bread	per lb.	0 2	0 1¾	0 1½
Beef	per lb.	0 5½	0 3¾	0 3¾
Mutton	per lb.	0 3¾	0 3¼	0 3
Sugar	per lb.	0 5	0 3¼	0 2¾
Tea	per lb.	2 9	2 3½	1 10
Butter (fresh)	per lb.	1 4	0 9¼	0 9¾
Cheese (colonial)	per lb.	0 10	0 6	0 5½
Milk	per quart.	0 4½	0 3¼	0 3

Rates of Wages.

The average rates of wages paid in 1898 in each provincial district for agricultural, pastoral, artisan, and servants' labour are given on pages 306 to 309.

AVERAGE PRICES OF PRODUCE, LIVE-STOCK, PROVISIONS, ETC., IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1898.

Produce, &c.		Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marlborough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
I. AGRICULTURAL PRODUCE.										
Wheat ..	.. per bushel (60lb.)	3/6 to 4/	4/	4/6	3/4 to 4/4	3/9	4/6	4/6	4/2	3/ to 5/
Barley ..	.. per bushel (47lb.)	3/6 to 4/	4/	3/	3/ to 4/6	4/3	4/	4/	3/6	3/6 to 5/
Oats ..	.. per bushel (40lb.)	2/3 to 3/	3/3	3/	2/3 to 2/8	2/10	2/	3/3	3/3	1/10 to 4/
Maize ..	.. per bushel (56lb.)	2/8 to 3/6	4/	3/6	3/ to 3/6	3/3½	3/3	4/	3/6	2/6 to 5/
Bran ..	.. per bushel (20lb.)	9d. to 1/	1/	1/6	9d. to 1/	8d.	10d.	1/	8d.	7d. to 1/
Hay ..	.. per ton ..	£3 to £4/10	£3/10	£5	£3/ to £5	£1/3	£3	£4	£4/10	£2/5 to £5
II. FLOUR AND BREAD.										
Flour, wholesale	.. per ton of 2,000lb.	£10 to £11/10	£11	£12	£11 to £12	£10/1	£10	£9	£10/10	£10 to £13/10
Flour, retail	.. per bag of 50lb...	5/6 to 6/9	6/3	6/6	6/ to 6/6	6/	6/	6/	5/6	5/6 to 7/6
Bread ..	.. per 4lb. loaf ..	6d.	7d. to 8d.	6d.	7d.	7d.	7d.	7d.	6d.	6d. to 8d.
III. LIVE-STOCK AND MEAT.										
Horses, draught	.. per head ..	£18 to £30	£18	£15 to £25	£23 to £30	£30	£18 to £30	£25	£20	£25 to £40
Horses, saddle and harness	.. per head ..	£12 to £17/10	£7 to £15	£5 to £15	£8/10 to £15	£14	£12 to £20	£15	£7	£8 to £25
Cattle, fat	.. per head ..	£5/10 to £8	£5/10	£6	£6 to £7	£4 to £8	£7	£7/10	£6/10	£5 to £8/10
Cattle, milch cows	.. per head ..	£4 to £6	£3 to £4	£4 to £5	£4/10 to £6	£5	£4/10	£6	£4/10	£3 to £7
Sheep, fat..	.. per head ..	7/ to 14/	7/	9/	8/ to 9/6	8/	8/6	14/	11/	11/ to 16/
Lambs, fat	.. per head ..	7/ to 10/	8/	7/	7/ to 8/	8/	8/6	13/	11/6	7/ to 12/
Butchers' meat:										
Beef ..	.. per lb.	3½d. to 5d.	4d.	4d.	3d. to 4d.	2d. to 4d.	3½d.	5d.	4½d.	4d. to 7d.
Mutton ..	.. per lb.	2¾d. to 4d.	3d.	3d.	2½d. to 3d.	2d to 3½d	3d.	4d.	3½d.	2½d to 6d.
Veal ..	.. per lb... ..	3d. to 6d.	4d.	4d.	3½d. to 4d.	3d. to 5d.	3½d.	6d.	4½d.	3d. to 6d.
Pork ..	.. per lb.	4d. to 6d.	5d.	5d.	4½d. to 6d.	5d.	4½d.	6d.	5d.	5d. to 7d.
Lamb ..	.. per lb.	4d. to 6d.	3/ per qr.	4d.	3½d. to 4d.	2½d.	2/6 per qr	3/6 per qr.	4½d.	4d. to 7d.
IV. DAIRY PRODUCE.										
Butter, fresh	.. per lb.	6d. to 1/1	10d.	1/	8d. to 1/	1/	9d.	1/	8d.	7d. to 1/
Butter, salt	.. per lb.	7d. to 8d.	8d.	7d.	6d. to 8d.	9d.	7d.	11d.	6d.	6d. to 10d.
Cheese, colonial	.. per lb.	4d. to 6d.	7d.	6d.	5d. to 6d.	5½d.	5½d.	7d.	4½d.	4½d. to 7d.
Cheese, imported	.. per lb.	8d. to 1/	..	..	7½d. to 1/6	6d.	1/6	..	10d.	8d. to 1/6
Milk ..	.. per quart ..	2d. to 3½d.	3d.	3d.	2d. to 3d.	4d.	4d.	5d.	3d.	2d. to 4d.

AVERAGE PRICES OF PRODUCE, LIVE-STOCK, PROVISIONS, ETC., IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1898—*continued.*

Produce, &c.		Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marl-borough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
V. FARM-YARD PRODUCE.										
Geese	per pair ..	5/ to 7/	6/	6/	4/ to 7/	6/6	6/6	7/6	5/6	5/ to 8/
Ducks	per pair ..	3/ t0 5/	3/6	4/	2/6 to 4/6	3/6	4/	6/	3/3	3/6 to 5/
Fowls	per pair ..	2/6 to 4/	3/	3/	2/6 to 3/	2/6	3/	3/6	3/	2/6 to 4/
Turkeys	per head ..	5/ to 6/6	4/6	6/	4/ to 6/	3/6	4/	7/6	3/6	4/6 to 10/
Bacon	per lb. ..	8d.	6d. to 8d.	10d.	7¼d. to 9d.	7d.	6½d.	8d.	7d.	7d. to 9d.
Ham	per lb. ..	8½d. to 10d.	8d. to 10d.	1/	9d. to 10d.	8d.	8d.	9d.	8½d.	8d. to 11d.
Eggs	per doz. ..	8d. to 1/3	1/	1/6	8d. to 9d.	1/	9d.	1/6	9d.	8d. to 1/4
VI. GARDEN PRODUCE.										
Potatoes, wholesale ..	per ton ..	£3/10 to £9	£7	£7/10	£5 to £7 10/	£7	£6	£10	£5	£6/10 to £12
Potatoes, retail ..	per cwt. ..	6/ to 12/	7/6 to 10/	7/6	6/ to 8/6	9/	8/	12/	6/6	7/6 to 13/
Onions	per lb. ..	1½d. to 2d.	3d.	3d.	1d. to 1¼d.	1d.	1½d.	3d.	1½d.	1d. to 3d.
Carrots	per doz. bnchs.	1/ to 2/	1/	2/	1/ to 1/6	3/	2/	2/6	9d.	8d. to 2/
Turnips	per doz. bnchs.	1/ to 2/	1/	2/	1/ to 1/6	2/	2/	2/6	9d.	8d. to 2/
Cabbages	per doz. ..	1/6 to 4/	1/6	2/	1/ to 2/	2/6	2/6	2/6	10d.	9d. to 4/
VII. MISCELLANEOUS ARTICLES.										
Tea	per lb. ..	1/6 to 1/9	2/	2/	1/6 to 2/2	2/	1/9	2/	1/8	1/7 to 2/4
Coffee	per lb. ..	1/4 to 1/7	2/ to 2/3	1/9	1/4 to 1/8	1/8	1/6	2/	1/6	1/8 to 2/
Sugar	per lb. ..	2¼d. to 2½d.	3d.	3d.	2¼d. to 2¾d.	2½d.	2¾d.	3d.	2½d.	2½d. to 3½d.
Rice	per lb. ..	3d. to 3½d.	3½d.	3d.	3d.	3d.	2½d.	3d.	3d.	3d. to 4d.
Salt	per lb. ..	¾d. to 1d.	1d.	1d.	¾d. to 1d.	1d.	1d.	1d.	¾d.	¾d. to 2d.
Soap	per cwt. ..	10/ to 20/	23/	18/	18/ to 21/	..	16/	..	..	14/ to 28/
Candles	per lb. ..	5d. to 8d.	8d.	9d.	5d. to 7d.	8d.	6½d.	8d.	6d.	5d. to 9d.
Tobacco	per lb. ..	5/3 to 5/6	5/6	5/6	5/ to 5/6	5/6	5/3	5/3	4/11	4/10 to 6/
Coal	per ton ..	16/ to 26/	38/6	38/	32/ to 50/	38/	32/6	19/	32/6	9/6 to 30/
Firewood	per cord ..	18/ to 40/	30/ to 38/	30/	13/ to 32/	24/	30/	25/	37/6	15/ to 32/
VIII. BEER, WINE, SPIRITS.										
Beer, colonial ..	per hhd. ..	£4 to £6	£4/15	£4/10	£4/10 to £5	£4	£4/10	£4	£3/15	£3/15 to £5
Beer, English, bottled	per doz. qts. ..	14/ to 15/	15/	14/6	13/ to 14/	13/6	15/	14/	18/	13/6 to 18/
Brandy	per gallon ..	27/ to 30/	32/6	30/	26/ to 36/	25/	26/	25/	26/	25/ to 36/
Rum	per gallon ..	27/ to 32/	27/6	27/	25/ to 28/	25/6	25/	25/	24/	20/ to 30/
Whiskey	per gallon ..	27/ to 30/	30/	30/	27/6 to 28/6	28/	25/6	27/6	25/	22/ to 30/
Gin	per gallon ..	22/ to 25/	27/6	24/	19/ to 28/	20/	..	22/6	23/	20/ to 30/
Wine, Australian ..	per gallon ..	15/ to 26/	18/ to 20/	16/	12/ to 17/	15/	15/	14/	21/	15/ to 27/
Wine, European ..	per gallon ..	18/ to 26/	20/	25/	18/ to 36/	17/6	15/6	18/	24/	20/ to 36/

AVERAGE RATES OF WAGES IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1898.

Description of Labour.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marlborough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield)
1. AGRICULTURAL LABOUR.									
Farm-labourers:									
With board, per week	15/ to 20	15/ to 20/	20/ to 25/	20/ to 35/	20/ to 30/	20/	25/ to 30/	15/ to 20/	12/6 to 20/
Without board, per day	4/6 to 6/	6/	7/	6/	..	5/	..	5/ to 6/	4/ to 7/
Ploughmen:									
With board, per week	15/ to 25/	25/	20/ to 25/	20 / to 35/	20/ to 30/	20/	30/	17/6 to 20	15/ to 20/
Without board, per day	6/*	7/	8/	6/	..	5/	..	5/ to 6/	6/ to 7/6
Harvesters:									
With board, per week	15/ to 25/	30/	30/ to 40/	..	40/	25/	..	30/ to 40/	27/6 to 35/
Without board, per day	6/	1/ per hour	8/	6/6 to 7/	7/ to 9/	6/	..	7/ to 9/	7/6 to 10/
Men-cooks on farms:									
With board, per week	15/ to 20/	15/ to 25/	20/to 25/	20/ to 25/	20/	20/	20/	25/ to 30/	20/ to 25/
Female farm-servants:									
With board, per week	8/ to 10/	10/ to 15/	12/ to 15/	12/6 to 15/	10/ to 12/	12/	10/	8/ to 13/	10/ to 12/
2. PASTORAL LABOUR.									
Shepherds, with board, per annum ..	£52 to £65	£50 to £75	£52 to £75	£47/10 to £75	£65 to £78	£52	..	£50 to £65	£40 to £65
Stockkeepers, with board, per annum ..	£52 to £65	15/ to 20/†	£52 to £75	£50 to £65	£52 to £65	£52	£75	£52 to £65	£45 to £60
Station-labourers, with board, per week	14/ to 20/	20/	20/ to 25/	15/ to 25/	15/ to 20/	20/	20/	15/ to 25/	15/ to 25/
Shearers, with board, per 100 sheep shorn	15/ to 20/	17/6	15/ to 20/	16/8 to 20/	17/6	20/	20/	15/ to 20/	10/ 15/ 16/8 20/
Men-cooks on stations, with board, per week	20/	15/ to 25/	20/ to 30/	20/ to 30/	20/ to 25/	20/	..	20/ to 30/	20/ to 25/
3. ARTISAN LABOUR (per day, without board).									
Masons	8/ to 12/	12/	10/ to 11/	12/	8/ to 10/	12/	12/	9/ to 11/	9/ to 12/
Plasterers	8/6 to 12/	12/	9/ to 10/	9/ to 12/	7/ to 9/	12/	12/	9/ to 10/	9/ to 12/

* 5s. 6d. per acre. † Per week.

AVERAGE RATES OF WAGES IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1898—*continued*.

Description of Labour.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marl-b'rough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
3. ARTISAN LABOUR (per day, without board)—*continued*.									
Bricklayers	8/6 to 12/	12/	10/ to 12/	9/ to 12/	7/ to 8/	12/	10/ to 12/	10/ to 12/	9/ to 11/
Carpenters	8/ to 10/	10/	8/ to 11/	9/ to 10/	8/ to 10/	8/	10/ to 12/	8/ to 10/	8/ to 12/
Smiths	7/ to 10/	10/ to 12/	8/ to 11/	9/ to 10/	9/ to 10/	10/	12/	8/ to 9/	7/6 to 11/
Wheelwrights	7/ to 10/	10/	9/ to 11/	9/ to 10/	9/ to 10/	10/	12/	8/ to 10/6	8/ to 12/
Shipwrights	8/6 to 9/	10/	9/ to 11/	12/	..	11/	12/	8/6 to 11/	10/ to 12/
Plumbers	8/	9/ to 10/	7/ to 9/	9/ to 12/	8/ to 10/	10/	11/	8/ to 10/	8/ to 12/
Painters	8/ to 8/8	8/ to 9/	7/ to 9/	9/ to 10/	5/ to 8/	9/	8/ to 12/	8/ to 9/	8/ to 10/
Saddlers	7/ to 8/	7/ to 9/	8/ to 10/	7/ to 8/6	8/ to 9/	7/	10/	8/ to 9/	7/ to 7/6
Shoemakers	6/6 to 8/	7/	7/ to 8/	7/ to 8/	7/ to 8/	8/	9/	7/ to 8/	6/6 to 10/
Coopers	6/	8/ to 9/	8/ to 10/	9/	8/ to 10/	8/	..	8/ to 10/	7/ to 8/
Watchmakers	8/	10/	10/ to 12/	10/	9/ to 10/	10/6	10/	9/ to 11/	8/6 to 10/
4. SERVANTS.									
Married couples without family, with board, per annum	£55 to £80	£65 to £80	£75 to £90	£70 to £85	£70	£75	£60	£60 to £75	£60 to £75
Married couples with family, with board, per annum	£45 to £70	†	£65 to £80	£52 to £70	..	..	..	£55 to £65	£50 to £60
Grooms, with board, per week ..	15/ to 18/	20/ to 25/	15/ to 25/	15/ to 25/	25/	20/	20/	20/ to 25/	20/ to 25/
Gardeners:									
With board, per week	15/ to 20/	15/ to 50/	20/ to 30/	15/ to 25/	25/	25/	..	22/6 to 25/	20/ to 27/6
Without board, per day	6/ to 8/	6/ to 9/	6/ to 8/	..	..	..	10/	6/6 to 7/	6/ to 7/
Cooks, with board, per week	15/ to 20/	12/ to 30/	15/ to 20/	15/ to 25/	15/ to 20/	20/	20/	12/ to 15/	15/ to 20/
Laundresses, with board, per week ..	10/ to 16/	15/	15/ to 20/	12/6 to 16/	10/ to 15/	20/	20/	12/ to 15/	12/ to 20/
General house-servants, with board, per week	8/ to 12/	8/ to 15/	8/6 to 12/	10/ to 12/6	7/ to 10/	11/	12/6	8/ to 12/	10/ to 15/
Housemaids, with board, per week ..	8/ to 12/	8/ to 15/	8/6 to 12/	10/ to 12/6	10/ to 12/	12/6	12/6	7/ to 10/	10/ to 15/
Nursemaids, with board, per week ..	5/ to 7/	5/ to 10/	5/ to 7/	6/ to 10/	5/ to 7/6	6/	10/	5/ to 7/6	4/ to 5/

† 30s. per week and free house.

AVERAGE RATES OF WAGES IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1898—*continued.*

Description of Labour.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marl-b'rough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
4. SERVANTS—*continued.*									
Needlewomen:									
With board, per week	10/ to 24/	..	20/ to 30/	8/ to 24/	5/	15/	20/	10/ to 12/	15/ to 20/
Without board, per day (lunch always provided)	3/	3/6	..	3/6 to 4/	..	4/6	3/6	3/ to 5/	2/ to 3/6
5. MISCELLANEOUS.									
General labourers, without board, per day	5/ to 8/	7/ to 8/	7/ to 8/	7/ to 8/	5/ to 7/	7/	8/	5/ to 7/6	6/ to 9/
Stonebreakers, without board, per cubic yard	2/6 to 4/	3/	..	3/	..	4/	..	2/ to 2/6	2/6 to 3/6
Seamen, with board, per month ..	£3 to £5/10	..	£6 to £7/10	£7/15	..	£7/10	£6/10	£4 to £5/10	£4 10/ to £7
Miners, without board .. per day	7/6 to 8/	..	8/	..	..	9/	10/	9/ to 12/6	8/ to 10/
Engine-drivers, without board, per day	8/ to 10/	7/ to 8/	8/ to 11/	8/ to 9/	9/ to 10/	9/	11/	10/6 to 12/6	8/ to 12/
Tailors, without board, per day	7/ to 9/	..	9/ to 11/	..	7/ to 8/	7/6	..	8/ to 9/	8/ to 10/
„ „ per week	..	40/	..	45/ to 50/	..	..	40/ to 50/	..	..
Tailoresses, „ per day	3/6 to 5/	..	..	..	5/ to 6/	3/6	..	4/ to 5/	4/6 to 6/
„ „ per week	..	12/ to 25/	15/ to 25/	15/ to 25/	..	..	20/ to 30/	..	..
Dressmakers, „ per day	2/6 to 4/	..	..	..	4/ to 5/	..	..	4/ to 5/	3/6 to 4/6
„ „ per week	..	15/	2/ to 13/	5/ to 15/	..	10/ to £4	20/	..	..
Milliners, „ per day	2/6 to 4/	..	..	..	..	..	..	5/ to 6/	3/6 to 4/
„ „ per week	..	20/ to 60/	20/ to 40/	25/ to 30/	20/	15/ to £4	20/ to 50/	..	..

AVERAGE RATES OF WAGES IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1898—*continued.*

Description of Labour.		Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marl-b'rough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
5. MISCELLANEOUS—*continued.*										
Machinists, without board,	per day	2/6 to 4/	..	..	..	..	..	..	4/ to 5/	3/6 to 5/
" "	per week	..	12/ to 35/	20/	10/ to 25/	15/ to 20/	12/6	20/	..	..
Storekeepers, "	per day	5/ to 10/	..	..	..	..	..	..	6/ to 8/	..
" "	per week	..	30/ to 40/	50/ to 60/	45/ to 50/	..	60/	50/	..	40/ to 60/
" assistants, "	per day	5/	..	..	..	..	..	..	5/ to 6/	..
" " "	per week	..	30/ to 40/	20/ to 40/	30/ to 42/	..	40/	40/	..	30/ to 40/
Drapers' assistants, "	per day	5/6 to 8/6	..	..	..	..	..	..	6/ to 7/	..
" "	per week	..	30/ to 80/	40/ to 80/	40/ to 50/	40/ to 60/	20/ to 80/	50/ to 80/	..	30/ to 40/
Grocers' assistants, "	per day	..	..	..	..	..	..	..	6/ to 7/	..
" "	per week	30/ to 35/	30/ to 50/	10/ to 15/	42/	20/ to 40/	40/	40/ to 60/	..	30/ to 45/
Butchers, "	per day	..	..	..	..	..	..	..	6/ to 7/	..
" "	per week	20/ to 40/	30/ to 45/	30/*	45/ to 50/	50/ to 60/	40/	40/	..	30/ to 50/
Bakers, "	per day	..	..	..	..	..	8/	..	6/ to 8/	..
" "	per week	30/ to 50/	30/ to 45/	40/ to 60/	45/ to 52/6	50/ to 60/	..	50/ to 60/	..	35/ to 60/
Storemen, "	per day	..	..	..	..	7/ to 8/	..	..	6/ to 8/	..
" "	per week	35/ to 40/	35/ to 45/	40/ to 50/	40/ to 45/	..	40/	30/	..	40/ to 50/
Compositors, "	per day	..	..	8/ to 9/	..	8/ to 9/	9/	10/	9/ to 10/6	..
" "	per week	40/ to 60/	45/ to 50/	..	35/ to 60/	..	..	..	..	40/ to 60/

* With board.

LABOUR LEGISLATION.

The legislation passed by the General Assembly of New Zealand, and termed the "Labour Laws," comprises the undermentioned statutes and regulations made under various Acts:—

"The Conspiracy Law Amendment Act, 1894."

"The Contractors' and Workmen's Lien Act, 1892."

"The Employers' Liability Act, 1882," with amendments of 1891 and 1892.

"The Factories Act, 1894," and Amendment Act, 1896.

"The Industrial Conciliation and Arbitration Act, 1894," with amendments, 1895, 1896, and 1898.

"The Kauri-gum Industry Act, 1898."

Labour in Coal-mines: Extract from "The Coal-mines Act, 1891."

Labour in Coal-mines: Regulations for the management and administration of funds and moneys under section 69 of "The Coal-mines Act, 1891."

"The Master and Apprentice Act, 1865." Master and Apprentice: Extract from "The Criminal Code Act, 1893," sections 150 and 213.

"The Mining Act, 1898."

"The Servants' Registry Offices Act, 1895."

"The Shearers' Accommodation Act, 1898."

"The Shipping and Seamen's Act, 1877," with Amendment Acts of 1885, 1890, 1894, 1895, and 1896.

"The Shops and Shop-assistants Act, 1894," with Amendment Acts of 1895 and 1896.

"The Sunday Labour in Mines Prevention Act, 1897."

"The Trade-Union Act, 1878," and Amendment Act, 1896.

"The Truck Act, 1891."

"The Wages Attachment Act, 1895."

"The Workmen's Wages Act, 1893."

These Acts and regulations are published in pamphlet form by the Department of Labour, with general remarks by the Secretary, which are quoted as important:—

> The labour laws have been passed in the effort to regulate certain conditions affecting employer and employed. Their scope embraces many difficult positions into which the exigencies of modern industrial life have forced those engaged in trades and handicrafts. The general tendency of these laws is to ameliorate the position of the worker by preventing social oppression through undue influences, or through unsatisfactory conditions of sanitation. It will undoubtedly be found that, with the advance of time, these laws are capable of improvement and amendment; but they have already done much to make the lives of operatives of fuller and more healthy growth, and their aim is to prevent the installation of abuses before such abuses attain formidable dimensions.
>
> The manufacturing population in New Zealand differs from that in some other of the Australasian Colonies by its wide dispersion. The capital city has hitherto been unable to draw to itself the industrial ability of the other provincial centres; and not only do Auckland, Christchurch, and Dunedin vie with Wellington as centres of population, but also as *nuclei* of commercial activity. In the second-class towns, such as Nelson, Napier, Invercargill, &c., many important works are being carried on, while even in the villages and rural districts the progress of new settlement necessitates the manufacture of articles which in older communities are produced in specialised localities. Men scattered widely at the numerous occupations of colonial country life, shearing, harvesting, bush-felling, road-making, or sailing coastal vessels, &c., require legal protection against the dangers and disabilities to which their callings expose them. This general dispersion of industry necessitates not only a wide system of supervision, but legislative measures of a peculiar character, at once sufficiently elastic to comprehend many varieties of function, and yet rigid to crush any apparent abuse.

The most important of these laws, in its general significance, is that dealing with compulsory arbitration in labour disputes. "The Industrial Conciliation and Arbitration Act, 1894" (with its amending Act of 1895), exists for the purpose of encouraging industrial association, and to facilitate the settlement of trade difficulties. Societies consisting of five or more employers, or of seven or more workers, may be registered and become subject to the jurisdiction of the Board and Court appointed by the Act. Any such society may bring a disputed case before the Board of Conciliation appointed for that district, and, if the Board fails to effect a settlement, the dispute may be referred to the Court of Arbitration, whose award may be enforced in the same manner as an award of the Supreme Court. The amount, however, for which such an award may be enforced against an association is limited to £500. [There are also Amendment Acts of 1896 and 1898.]

"The Factories Act, 1894," is a consolidation of previous legislation, with some important additions. New Zealand has been divided into factory districts under the charge of a Chief Inspector and 163 local Inspectors. As a "factory" or "work-room" includes any place in which two or more persons are engaged in working for hire or reward in any handicraft, there are few operatives who do not come within the scope of the Act. Children under fourteen years of age are not allowed to be employed, and the hours of labour, holidays, &c., of women and youths under sixteen are strictly regulated. Good ventilation, sanitary accommodation, and general cleanliness of buildings are points dwelt upon; while machinery has to be properly guarded, fire-escapes provided, and dangerous occupations especially classified. In order to assist the system of free general education which prevails in the colony, young persons are not allowed to work in factories till they have passed the Fourth Standard of the State schools, or an equivalent examination. To prevent the introduction of "sweating" into our commercial centres, articles made, or partly made, in private dwellings, or unregistered workshops, have to be labelled when offered for sale, so that goods so manufactured (often in unsanitary premises) may not be placed in the market in competition with work done in properly inspected factories. Any person removing such labels is liable to a heavy fine. The Factory Inspectors also exercise supervision over the sleeping accommodation provided for shearers in country districts. As the sheep-runs and farms are widely scattered, sometimes in the rough and remote back-country, this part of the work of inspection is no easy task. A woman Inspector of Factories also gives her assistance to the duties of the department, travelling from place to place, and particularly looking into the condition of the operative women and girls. [There is also an Amendment Act of 1896.]

The duration of the hours of business in shops is limited by "The Shops and Shop-assistants Act, 1894," and "The Shops and Shop-assistants Act Amendment Act, 1895." These provide for the closing of all shops in towns and boroughs for one afternoon half-holiday in each week. A few shops, such as those of chemists, fruiterers, eating-house keepers, &c., are exempted from the general closing on account of their convenience to the public; but assistants in such establishments, in the bars of hotels, and in country stores, must have a half-holiday on some day of the week. Very small shops carried on by Europeans without paid assistants are also exempt from closing on the general half-holiday, but must close on one afternoon in each week. The hours of work for women and young persons are defined; sitting accommodation must be provided, and precautions as to the necessary time for meals, sanitary accommodation, &c., are enforced; the Act also enumerates the working-hours, holidays, &c., of clerks employed in banks, mercantile offices, &c. [There is also an Amendment Act of 1896.]

"The Employers' Liability Act, 1882," added to and amended in 1891 and 1892, is designed to protect workmen from negligence on the part of employers, by defining under what circumstances compensation for injury or death may be recoverable. The Act covers all employments except that of domestic servant, and does not allow of any "contracting out" by agreement on the part of employer and employed. Another Act of this character has regard to the payment of workmen's wages, and states that if a workman shall demand payment of wages twenty-four hours or more after they are due, and the contractor does not pay such wages, the workman may legally attach all moneys due to the contractor by the employer until such wages are paid. "The Truck Act, 1891," requires that payment of wages shall not be made in goods or "truck," but in money, any contra account notwithstanding; but there are a few exemptions, such as for advances for food, tools, &c., to men engaged in felling bush. In order to minimise the number of cases wherein fraudulent or unfortunate contractors victimised their labourers, "The Contractors' and Workmen's Lien Act 1892," was brought into existence. This entitles a person who has done work upon any land, building, or chattel to a lien upon such property. The lien is only to be exercised under certain restrictions, and for a limited amount, but it gives priority of claim for wages against other service, and enables legal proceedings for recovery to be taken before the attached property can be disposed of or alienated.

"The Servants' Registry Offices Act, 1895," regulates the licensing of registry offices for domestic or farm servants. It prevents friendless or uneducated people from becoming the prey of unscrupulous persons, who formerly collected fees by duping the applicants for situations. The registry-office keepers have to pay a licensing fee to the Government, and to present a certificate of good character when applying for a license. Proper ledgers and books open to inspection must be provided, and the lending or hiring of licenses is not permitted. Registry-office keepers are not allowed to keep lodging-houses for servants, or have any interest in such houses.

Five Acts for the supervision of shipping, and the protection of sailors and passengers, are to be found in this volume. They relate to the appointment of pilots and ships' officers; the engagement and discharge of sailors; the sanitation, ventilation, and overloading of vessels; and the number of duly rated hands engaged in proportion to tonnage. They endeavour to prevent injustice to the sailor as to advance-notes, or payments in foreign money, and also specify penalties to be inflicted for desertion, disobedience, &c.

Combinations or associations of persons for regulating the relations between masters and masters, or masters and workmen, or workmen and workmen, are directed by "The Trade Union Act, 1878." In this Act the different statutes which do not apply to trade-unions (such as the Joint Stock Act, the Friendly Societies Act, &c.) are enumerated, and the manner in which such societies may register, hold property, &c., is set out, together with the necessary provisions as to returns, penalties, &c. "The Conspiracy Law Amendment Act, 1894," permits any combination of persons in furtherance of a trade dispute, provided that any act performed by such combination or society would not be unlawful if done by one person. Such action must not include riot, sedition, or crime against the State. [An Amendment Act was passed in 1896, altering the age of membership.]

"The Wages Attachment Act, 1895," prevents wages below £2 a week being attached for debt. It does not interfere with any workman being sued for debt in the ordinary course, but prevents a grasping creditor from stepping in before others and seizing wages in advance before they are earned.

"The Master and Apprentice Act, 1865," applies mainly to the indenturing of apprentices by the State, such apprentices being children of destitute parents. In other respects the law of England is held to be the law governing the relations between masters and apprentices in this colony; but special sections of the Act apply to the punishment of apprentices for absenting themselves from duty, and to the fine on a master for neglecting or ill-using his apprentice.

"The Mining Act, 1898," consolidates and repeals all statutes of a similar nature, and includes various amendments suggested by the Conference of Wardens of goldfields, and by mining associations. The mining legislation refers to labour in any kind of mine, and deals with the position of tributers and wages-men, the examination for certificates for mine-managers, &c., provision for ventilation, precautions against accident by blasting, &c.

In or about coal-mines women and boys are not allowed to be engaged. There is provision for the appointment of inspectors, mine-managers, engine-drivers, &c., and rules are furnished as to the ages and working-hours of those employed in attending engines, machinery, winding-gear, &c. The ventilation of mines is provided for, and the necessary safeguards imposed as to blasting operations, working in foul air, protecting lights, &c. There are regulations for the management and administration of funds and moneys, which relate chiefly to the withdrawal of moneys from the Sick and Accident Fund, and returns demanded from trustees of the fund.

Co-operative Public Works.

Remarks on the co-operative system of constructing public works were given in a special article in the Year-book of 1894. The numbers of workmen employed in this manner under Government departments during the financial year 1898–99 were :—

		Lands and Survey Department.	Public Works Department.	State Farm, Levin.	Total.
April,	1898 ..	1,575	908	16	2,499
May,	„ ..	1,601	852	15	2,468
June,	„ ..	1,656	973	14	2,643
July,	„ ..	1,804	1,042	14	2,860
August,	„ ..	1,889	1,346	14	3,249
September,	„ ..	1,883	1,382	21(a)	3,286
October,	„ ..	1,894	1,497	21(a)	3,412
November,	„ ..	1,749	1,473	20(b)	3,242
December,	„ ..	1,397	1,373	18(b)	2,789
January,	1899 ..	1,194	1,167	17(b)	2,378
February,	„ ..	1,347	1,205	17(b)	2,569
March,	„ ..	1,367	1,110	22(b)	2,499

(a) Also nine families; (b) also eight families.

The average number of men employed in each year was as follows :—

Year.	Lands and Survey Department.	Public Works Department.	Total.
1891–92	261	527	788
1892–93	280	842	1,122
1893–94	933	1,015	1,948
1894–95	1,103	962	2,065
1895–96	1,572	764	2,336
1896–97	1,459	854	2,313
1897–98	1,552	890	2,442
1898–99	1,613	1,194	2,807
Gross totals	8,773	7,048	15,821
Average ..	1,097	881	1,978

The State Farm at Levin.

The Department of Labour furnished information to a Joint Committee of the Houses of Parliament, in October, 1898, on this institution.

The area of the farm is 800 acres, all of which was in bush and scrub when operations commenced. Its value at the time of starting the farm was £4 per acre, or £3,200. Since then Parliament had voted, for carrying on the farm, sums of money as follows: £3,489 to March, 1895; £2,500 in 1895–96; £1,500 in 1896–97; and £800 in 1897–98: making altogether £8,289. Besides these the receipts for the period 1894–98 amounted to £3,876, mainly from cattle, firewood, butter, and milk, royalty on timber, rents, and general produce. Against the above there is, of course, the land, now valued at £12 10s. an acre, with stock, implements, buildings, orchard, fencing, and roads.

The average number of men employed, and their dependents, for the five years was:—

Year.	Men.	Dependents.
1894 (September to December) ..	31	70
1895	32	73
1896	25	49
1897	17	26
1898 (to end of July)	14	20

In a draft report by the Hon. Mr. Bolt, the natural difficulties in hewing a settlement out of a crowded forest of heavy timber are referred to, and he points out that such an undertaking could give no promise of reward to either labour or capital until several years had passed. At the same time he remarks:—

> A State farm should not be looked at from a profit-and-loss point of view, but rather as an institution the establishment of which is demanded by the exigencies of our social life, and which, like other public institutions, reimburses the State by increasing the sum of general well-being.
>
> Considering the initial difficulties above referred to, an examination of the return and balance-sheet of the Levin State Farm will show that marked and increasing progress is being made. This will be seen from the following facts:—
>
> The farm has been in existence for about four years. During the first two years of that period (1894–96) the sum of £5,033 3s. 1d. was paid in wages, while the value of produce sold during that period amounted to only £1,303 18s. 3d.—a difference of £3,729 4s. 10d. During the two years, 1896 to 1898, the wages amounted to £3,221 0s. 8d., while the sum realised from the sale of produce was £2,572 0s. 10d.—a difference of only £649; and, taking the past year by itself, the difference between the sum paid in wages and that obtained from the sale of products was only £338.

It is found year by year the value of timber sold diminishes, while that of the agricultural produce increases.

The conclusions drawn by the Committee, after due consideration, in respect of State farms, were:—

> 1. That State farms may be so constituted as to give great relief to men who are temporarily out of employment, and that their utility would be greatly increased if manufacturing industries were carried on in connection with them wherever possible. As an instance, the Committee point out that at the present time cream is sent from the Levin State Farm to Wellington and returned to the Levin market in the form of butter. Additional employment would therefore be given if the dairying operations of the farm were extended so as to justify the establishment of a dairy factory thereon; and, in this connection, if the milk from the surrounding farms were purchased at the market rate the benefits conferred on the district would be substantial.
>
> 2. That State farms should be placed within reasonable reach of the persons intended to be benefited.

3. That other industries, such as market-gardening, flower-growing, fruit-growing, jam-making, poultry-raising, &c., should also be established.

4. The State farms should be so constituted as to preclude their being viewed in any sense as benevolent institutions.

5. That, with the exception of what is required to supply immediate and pressing wants, no payment in respect of labour performed should be made to any person not an officer of the department until such person is leaving the settlement.

6. That operations on the settlements should be directed towards supplying the daily wants of the people living there, and with that view, and also with the view of making the employment as far as may be suitable to the various capacities of the residents, the industries carried on should be as numerous as possible: in the attainment of these ends, locality, soil, and other conditions favourable would require to be carefully selected.

7. That, as the restoration of our forests is a work of great national importance, it might be undertaken as an adjunct to the State settlement, and this would give occupation to men at seasons of the year when work on the settlements was slack. In this connection it would be necessary to establish nurseries on the farms where some of the older men might be employed, while the younger and more able-bodied could be employed in preparing the land and planting out young trees in such reserves in the colony as are set apart for such purposes.

8. That State farms in the matter of instruction should have a technological side, in order that the principles which underlie the practical lessons received on the farm might be further illustrated and explained. Persons with little cash and almost devoid of knowledge regarding agricultural pursuits, but who are desirous of settling on small sections of land in the country, might avail themselves of this education.

SECTION XV.—METEOROLOGY.

TEMPERATURE, RAINFALL, ATMOSPHERIC PRESSURE, AND WIND, THROUGHOUT NEW ZEALAND, AS OBSERVED AT NINE STATIONS, FOR THE YEAR 1898.

(*From Tables prepared by Sir James Hector.*)

THE OBSERVATIONS WERE TAKEN AT 9.30 A.M.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest.	Lowest.	Wet Days.	Fall.		
Auckland (lat. 36° 50′ S.; long. 174° 50′ 40″ E.; alt. 125 ft.).	° Fahr.	° Fahr.	No.	Inches.	Inches.	
January	90·0	49·0	10	3·140	30·100	SW, W.
February	78·5	47·5	3	0·780	30·010	SW, NW.
March	73·0	47·0	11	3·020	30·080	SW, NE, SE.
April	74·0	45·0	8	0·970	30·170	S, SW, NE, E.
May	68·0	40·0	18	3·670	29·990	SW, NW, NE, E.
June	68·0	41·5	12	3·980	30·190	S, SW.
July	62·0	41·0	23	6·180	29·910	SW.
August	61·0	41·0	23	5·940	30·070	SW.
September	65·0	45·0	22	2·250	30·080	SW, NW.
October	65·0	47·5	19	4·680	29·890	SW.
November	78·0	48·0	12	2·390	29·970	SW.
December	77·0	53·0	13	3·750	29·920	NE, SW, NNW.
Rotorua (lat. 38° 9′ S.; long. 176° 15′ E.; alt. 990 ft.).						
January	98·0	34·0	6	2·060	30·130	SW.
February	87·5	30·0	3	2·620	30·080	SW.
March	85·0	31·0	9	2·590	30·190	SW, S.
April	74·0	32·0	11	2·620	30·290	SW.
May	67·5	26·0	14	7·600	30·120	SW, NW.
June	60·0	26·0	6	3·470	30·250	SW.
July	57·5	28·0	16	7·340	29·920	SW.
August	63·0	25·0	13	3·840	30·110	SW.
September	66·0	29·0	15	2·210	30·230	SW.
October	74·0	35·0	15	6·090	30·050	SW, W.
November	84·0	39·0	19	3·280	30·130	N, W, SW.
December	78·0	41·0	14	6·260	30·150	W, N, SE.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest.	Lowest	Wet Days.	Fall.		
New Plymouth (lat. 39° 3′ 35″ S.; long. 174° 4′ 58″ E.; alt. 100 ft.).	° Fahr.	° Fahr.	No	Inches.	Inches.	
January	82·0	42·0	7	2·630	29·940	SE, NE.
February	79·0	38·5	11	3·060	29·890	SE, NE.
March	79·0	39·0	10	4·730	29·990	SE.
April	75·0	37·5	9	3·350	30·090	SE.
May	74·0	31·0	15	3·970	29·880	SE, NE.
June	69·0	32·5	10	3·050	30·100	SE.
July	67·0	35·0	20	4·770	29·720	SE, SW.
August	67·0	30·0	16	3·700	29·990	SE, SW.
September	67·0	34·5	16	2·670	30·940	SE, SW.
October	68·5	41·0	15	5·210	29·720	NE, SW, SE.
November	76·0	39·0	18	7·420	29·890	NE.
December	78·0	42·0	15	4·500	29·880	NE.
Wellington (lat. 41° 16′ 25″ S.; long. 174° 47′ 25″ E.; alt. 140 ft.).						
January	76·0	49·0	5	0·951	29·871	NW.
February	75·0	44·0	8	1·850	29·850	NW.
March	75·0	42·0	14	2·471	30·011	NW, SE.
April	71·0	41·0	12	5·625	30·094	NW.
May	71·0	36·5	17	5·955	29·923	SE, NW.
June	61·5	35·5	13	3·270	30·166	NW, SE.
July	63·0	33·8	18	4·798	29·704	NW.
August	62·0	31·9	18	5·760	30·078	SE, NW.
September	65·0	37·0	11	3·033	29·903	NW.
October	75·0	37·0	14	2·854	29·652	NW.
November	71·5	44·0	18	2·685	29·800	NW.
December	77·3	47·0	14	2·710	29·898	NW.
Levin State Farm (lat. 40° 38′ S.; long. 175° 12′ E.; alt. 80 ft.).						
January	78·0	40·0	8	1·840	29·300	W.
February	73·5	35·6	7	1·630	29·440	W.
March	76·0	31·0	11	2·370	29·750	W.
April	70·0	32·5	11	2·110	29·880	NW, NE, W.
May	73·0	29·0	15	3·680	29·810	NE, S, W.
June	61·5	24·0	11	3·220	30·180	S, W.
July	59·2	26·2	19	4·270	29·820	W.
August	60·6	22·5	9	1·560	30·130	NE, S.
September	63·4	31·6	18	2·860	29·920	NE, W.
October	76·0	31·5	17	2·425	29·550	W.
November	73·4	40·2	18	4·750	29·540	W.
December	77·5	40·5	10	2·170	29·320	W.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest.	Lowest.	Wet Days.	Fall.		
Lincoln, Canterbury (lat. 43° 32′ 16″ S.; long. 172° 38′ 59″ E.; alt. 65 ft.).	° Fahr.	° Fahr.	No.	Inches.	Inches.	
January	94·0	41·0	4	0·691	29·766	NE, NW.
February	86·8	41·0	9	2·018	29·795	SW, NW, NE.
March	80·0	31·4	7	1·026	29·968	NE.
April	82·3	35·2	6	0·500	30·014	NE, NW.
May	74·1	30·9	16	3·085	29·876	NE, W.
June	65·1	25·8	7	1·665	30·134	NW, N, NE, W.
July	65·8	25·9	8	1·353	29·646	NE, SW.
August	64·8	27·8	8	1·180	30·110	NE, SW.
September	74·8	29·9	5	0·785	29·868	NE, SW.
October	74·6	28·2	10	1·755	29·607	NE.
November	91·0	35·5	11	2·750	29·695	N, NW, SW.
December	89·7	43·1	10	1·750	29·861	NE, SW.
Hokitika (lat. 42° 41′ 30″ S.; long. 170° 59′ E.; alt. 12 ft.).						
January	72·0	44·0	13	12·000	29·921	SW.
February	72·5	40·0	8	7·770	29·879	SW.
March	75·0	39·5	11	10·770	30·022	SW, NW.
April	73·0	39·5	11	10·720	30·062	E, SW.
May	70·0	30·0	12	7·570	29·813	E, NE, NW.
June	61·0	29·0	9	11·850	30·133	E.
July	57·5	30·0	21	11·980	29·734	E.
August	59·5	28·0	8	4·960	30·064	E, SW.
September	65·0	32·0	20	11·270	29·818	N, SW, NE.
October	66·5	41·5	25	15·580	29·670	SW.
November	70·0	39·0	19	9·200	29·802	SW, NW, N.
December	83·5	48·5	18	10·330	29·857	SW, NW, N.
Dunedin (lat. 45° 52′ 11″ S.; long. 170° 31′ 7″ E.; alt. 300 ft.).						
January	90·0	40·0	15	2·098	29·660	SW, W, NW.
February	75·0	37·0	17	3·299	29·719	W, SW.
March	77·0	35·0	13	1·592	29·862	SW, W, NE.
April	85·0	38·0	10	1·854	29·888	W, SW, NE.
May	62·0	32·0	14	2·532	29·799	SW, W.
June	63·0	30·0	12	5·134	30·000	SW, W.
July	57·0	27·0	17	3·658	29·544	SW, W.
August	63·0	28·0	14	2·710	30·002	SW.
September	65·0	32·0	14	2·452	29·747	SW, W, NE.
October	73·0	32·0	18	3·216	29·474	SW.
November	78·0	35·0	16	2·626	29·626	SW, W, NE.
December	76·0	40·0	10	2·972	29·774	NE, SW, NW.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest.	Lowest.	Wet Days.	Fall.		
Chatham Islands (lat. 43° 52′ S.; long. 176° 42′ W.; alt. 100 ft.).	° Fahr.	° Fahr.	No.	Inches.	Inches.	
January	66·0	46·0	10	1·770	29·350	NW, SW, W.
February	66·0	37·0	22	1·920	29·670	SW.
March	62·0	39·0	17	2·140	29·890	SW, E, NW.
April	62·0	32·0	11	0·880	30·030	SW, N.
May	62·0	34·0	22	3·470	29·810	SW, N.
June	57·0	34·0	19	1·770	29·990	SW, NE.
July	55·0	33·0	22	3·760	29·430	SW, W.
August	54·0	30·0	17	2·720	29·930	SW, W, E.
September	59·0	39·0	21	2·310	29·450	SW, NW.
October	59·0	34·0	19	1·790	29·440	SW, NW.
November	65·0	38·0	16	2·130	29·690	NW, SW, W.
December	68·0	44·0	8	1·240	29·960	E, W, NW.

NINE STATIONS: COMPARATIVE TABLE; YEAR 1898.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest, and Date.	Lowest, and Date.	Days on which Rain fell.	Greatest Fall, and Date.		
	° Fahr.	° Fahr.	No.	Inches.	Inches.	
Auckland	90·0, 4 Jan.	40·0, 31 May	174	1·920, 14 Aug.	30·031	SW, NE, NW.
Rotorua	98·0, 2 Jan.	25·0, 1 Aug.	141	2·250, 8 Feb.	30·137	SW, W, N.
New Plymouth	82·0, 6 Jan.	30·0, 26 July	162	1·670, 18 Jan.	30·002	SE, NE, SW.
Wellington	77·3, 11 Dec.	31·9, 1 Aug.	162	1·820, 5 April	29·912	NW, SE.
Levin	78·0, 21 Jan.	22·5, 1 Aug.	154	2·150, 12 Nov.	29·720	W, NE, NW.
Lincoln, Canterbury ..	94·0, 4 Jan.	25·8, 22 June	101	2·000, 13 Nov.	29·861	NE, SW. NW.
Hokitika	83·5, 30 Dec.	28·0, 1 Aug.	175	4·050, 17 June	29·898	SW, E, NW.
Dunedin	90·0, 2 Jan.	27·0, 25 July	170	2·010, 25 June	29·758	SW, W, NE.
Chatham Islands ..	68·0, 19 Dec.	30·0, 4 Aug.	204	1·500, 26 May	29·720	SW, NW, W.

The following table, compiled from information published in the Statistical Abstract for the Colonial Possessions of the United Kingdom, shows the shade temperature for each month in New Zealand and other British Colonies. The figures given are the means of four years (H signifies highest, and L lowest) :—

British Possessions (Stations and Height in Feet above Sea Level where known).	Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Year.	
	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.
New Zealand—	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.
Wellington (140)	78	45	78	47	76	44	70	43	66	38	62	34	59	33	62	34	65	37	69	41	74	33	75	44	78	33
Queensland—																										
Brisbane (130)	92	64	93	63	91	61	85	54	80	50	76	42	75	39	78	41	85	46	91	50	94	57	97	61	97	39
New South Wales—																										
Sydney (155)	92	59	89	58	84	59	79	51	72	48	67	44	63	39	70	42	77	45	88	48	87	54	94	57	94	39
Victoria—																										
Melbourne (91)	101	48	99	47	99	45	86	40	74	37	64	37	62	32	68	34	74	34	81	40	94	44	96	45	101	32
South Australia—																										
Adelaide (140)	108	49	106	50	100	48	89	45	78	40	67	38	65	36	74	39	79	41	86	41	96	45	101	48	108	36
Western Australia—																										
Perth (47)	107	50	102	53	98	52	96	57	81	40	70	38	70	37	73	38	80	42	83	42	93	48	100	51	107	37
Tasmania—																										
Hobart (160)	91	45	94	45	93	44	75	38	71	37	61	34	59	33	66	33	72	35	77	35	92	40	86	43	94	33
Natal—																										
Durban (150)	99	63	95	61	94	60	94	58	89	52	86	49	88	48	91	49	96	50	91	53	97	57	98	59	99	49
Cape Town—																										
Royal Observatory (37)	94	54	90	51	92	49	86	45	80	42	76	39	74	37	76	37	83	39	86	44	89	48	90	52	94	37
Hongkong—																										
Observatory (110)	73	47	78	46	77	49	84	58	89	68	91	73	91	74	91	74	92	70	90	66	82	55	79	49	91	46
Straits Settlements—																										
Singapore (30)	88	70	90	70	91	71	91	73	90	73	90	72	90	72	89	72	89	71	89	71	89	71	89	70	91	70
Mauritius—																										
Royal Alfred Observatory (179) ...	84	69	84	71	84	70	82	70	80	62	77	60	75	59	75	59	77	62	80	62	82	66	84	68	84	59
Canada—																										
Toronto (350)	47	-3	45	-3	51	6	71	22	78	31	86	44	88	46	89	47	82	41	71	27	56	13	45	-1	89	-3
Montreal (187)	45	-14	42	-13	44	0	69	24	81	32	87	43	88	50	86	50	81	39	70	27	59	11	43	-11	88	-13
St. John (N.B.) (116)	49	-7	46	-7	47	4	62	22	69	33	81	42	79	49	77	48	73	37	60	26	56	16	49	-3	81	-7
Halifax (122)	50	-1	46	-3	50	10	63	22	73	32	83	39	84	48	84	49	80	36	69	29	60	21	51	3	84	-3
Charlottetown, Prince Edward Island (38)	47	-6	43	-9	47	5	60	20	70	31	77	39	80	49	79	49	75	39	66	30	58	19	47	1	80	-9
Winnipeg, Manitoba (764) ...	34	-37	32	-37	49	-25	76	8	82	20	90	35	87	40	91	34	86	30	73	17	53	-16	39	-29	91	-37
Victoria, British Columbia (10) ...	51	14	55	22	60	30	67	29	73	38	76	39	79	43	76	44	71	38	64	35	55	30	51	23	79	14
St. John's, Newfoundland (125) ...	48	-6	50	-8	50	11	61	15	71	27	76	33	81	41	79	42	78	33	65	24	62	19	51	9	81	-8
Barbados—																										
Joes River (430)	81	67	81	67	83	69	84	70	84	71	85	72	84	70	85	70	85	71	85	71	84	70	83	69	85	67
Bahamas—																										
Military Hospital	77	63	79	68	79	67	84	69	89	72	88	73	89	78	89	73	87	75	86	77	82	70	77	67	89	63
Jamaica—																										
Kingston (60)	91	63	90	63	90	62	91	68	91	70	92	71	95	71	93	73	92	70	93	69	91	67	90	63	95	62
Trinidad (130)	86	67	87	68	88	69	88	70	89	70	86	71	86	71	86	70	89	70	88	70	87	70	85	69	89	67

SECTION XVI.—OCCUPATION OF LAND; AND LIVE-STOCK.

OCCUPIED LANDS.

THE occupation of land must not be confused with ownership, because there are large parcels of lands held which are unused and unoccupied. Neither can lands occupied be properly compared with the returns of Crown lands alienated or in process of alienation, for certain lands have passed into the hands of Europeans which were never made waste lands of the Crown.

The occupied lands of the colony for 1898–99 have been returned by the Department of Agriculture at 34,386,268 acres, including Crown lands leased for pastoral purposes only, or 405,789 acres in excess of the quantity for the preceding year.

A table is given showing the numbers and acreages of holdings, grouped according to size, for the three years in which the Department of Agriculture has compiled the information.

The return of occupied holdings of 1 acre and upwards in extent shows a total of 62,639 for 1898–99, against 60,759 for 1897–98, or an increase of 1,880. The holdings are reported as having increased by the number of 3,699 in two years.

In 1895 the holdings of over 1 acre in extent, as returned to the Registrar-General, numbered only 46,676. Holdings occupied by Maoris were excluded, besides holdings of exactly one acre, also gardens and orchards attached to residences.*

OCCUPIED LANDS: HOLDINGS.

[This and the succeeding statement deal with the full extent of occupied land, *including* Crown pastoral leases.]

Sizes of Holdings.	No. of Holdings.		
	1896–97.	1897–98.	1898–99.
1 acre to 10 acres, inclusive	16,715	17,133	18,230
10 acres to 50 „	11,008	11,182	11,426
50 „ 100 „	6,833	7,068	7,276
100 „ 200 „	8,804	9,192	9,164
200 „ 320 „	5,296	5,481	5,584
320 „ 640 „	5,244	5,436	5,555
640 „ 1,000 „	1,829	1,956	1,946
1,000 „ 5,000 „	2,367	2,454	2,589
5,000 „ 10,000 „	343	345	369
10,000 „ 20,000 „	227	246	220
20,000 „ 50,000 „	162	164	175
50,000 acres and over	112	102	105
	58,940	60,759	62,639

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* At the census of April, 1896, the actual number of persons described in the census schedules as having occupations necessitating their occupying holdings of land was 36,643. This number includes 31,577 farmers, 2,115 runholders, 1,402 market-gardeners, 619 horticulturists, 430 dairy-farmers, 225 fruit-growers, 175 nurserymen, 33 vignerons 32 poultry-farmers, 19 bee-farmers, and 16 others.

The total acreage of occupied land is given in the following table:—

OCCUPIED LANDS: ACREAGES.

Sizes of Holdings.	1896–97. Acres.	1897–98. Acres.	1898-99. Acres.
1 acre to 10 acres, inclusive ..	69,626	68,929	68,671
10 acres to 50 " ..	316,493	317,321	315,651
50 " 100 " ..	548,035	558,798	570,503
100 " 200 " ..	1,369,170	1,396,699	1,401,171
200 " 320 " ..	1,387,431	1,431,406	1,469,859
320 " 640 " ..	2,449,451	2,492,275	2,568,462
640 " 1,000 " ..	1,486,693	1,611,267	1,649,580
1,000 " 5,000 " ..	4,929,539	5,165,119	5,364,539
5,000 " 10,000 " ..	2,422,197	2,416,149	2,579,773
10,000 " 20,000 " ..	3,293,706	3,501,576	3,274,623
20,000 " 50,000 " ..	4,913,228	5,251,819	5,448,033
50,000 acres and over	10,126,643	9,769,121	9,675,403
	33,312,212	33,980,479	34,386,268

In regard to holdings, out of a total of 62,639, the large proportion of 36,932, or 58·96 per cent., were from 1 to 100 acres in extent; 46,096 or 73·59 per cent., were from 1 to 200 acres; and 51,680, or 82·50 per cent., were from 1 to 320 acres in size. The total number over 320 acres was only 10,959, or 17·50 per cent. of the whole, thus indicating a considerable degree of moderately close settlement, although the area of the holdings over the 320 acres limit necessarily shows as very large in a table which includes the Crown pastoral leases.

The plan of excluding these leases from the table showing the holdings in classes has its advantages, though not now adopted.

From the total extent of occupied land shown for the colony, such of the area of the Crown pastoral leases *as has been distinguished by the enumerators* can be deducted, and comparison then made for the census years 1886 and 1891, and the Agricultural Department returns for 1898–99. The figures are:—

—	Census Results, March, 1886.	Census Results, April, 1891.	Figures returned by Department of Agriculture, 1898–99.
—	Acres.	Acres.	Acres.
Total area of occupied land (after deducting Crown pastoral leases)	17,077,074	19,951,925	26,302,139

But the area for 1898–99 here given is believed to be altogether too great. The acreage shown in the returns as held on Crown pastoral lease must have been understated. The table (which is given on the next page) only shows eight millions of acres, against nine millions and a half for 1897–98. Some of these leases have probably been entered in the wrong column, for the land held from the Crown under various tenures shows an extraordinary increase on the figures given a year previously (5,401,959 acres, against 3,768,816 in 1897–98).

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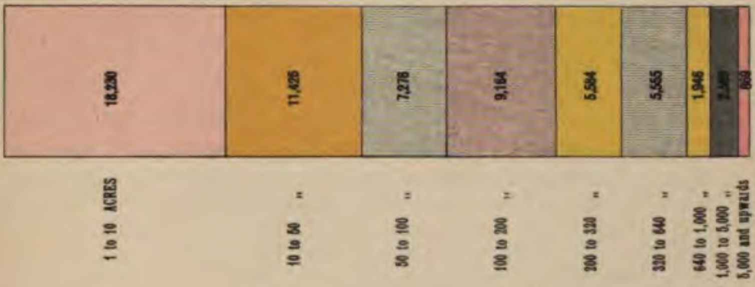
OCCUPIED HOLDINGS OF LAND, 1899.

I. Number of.—Classified according to size.

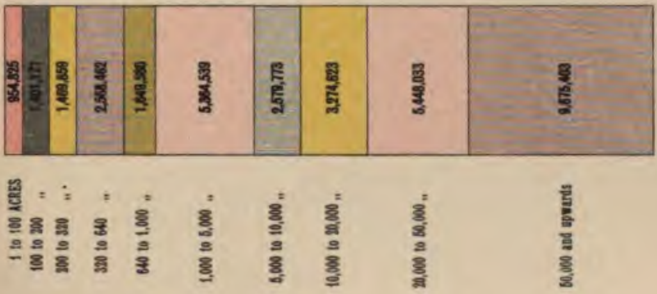
Total Number of Holdings: 62,639.



* As returned by Department of Agriculture, see page 321.

II. Acreage of.—In groups of sizes (including Crown Pastoral Leases).

Total Acreage of occupied Land (including Crown Pastoral Leases) 34,386,268 ac.



OCCUPATION OF LAND: TENURE.

Provincial Districts.		Total Number of Holdings.	Freehold.	Leased from Private Individuals or Public Bodies.	Leased from Natives.	Held from Crown under Different Tenures.	Held under Pastoral License
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Auckland	..	5,040,470	3,261,498	488,299	549,062	13,486,088	
Taranaki	..	1,029,239	557,947	200,269	120,086		
Hawke's Bay	..	3,318,325	1,886,827	440,142	716,829		
Wellington	..	3,701,788	2,454,641	440,238	249,027		
Marlborough	..	2,213,260	839,227	84,145	3,882		
Nelson	..	1,899,745	981,037	109,662	15,516		
Westland	..	573,331	50,552	14,860	3,780		
Canterbury	..	6,311,491	2,744,281	814,961	9,584		
Otago	..	10,298,619	2,811,707	1,039,285	12,836		
Totals	..	34,386,268	15,587,717	3,631,861	1,680,602	5,401,959*	8,084,129*

* For remarks as to the division of the total of thirteen and a half millions of acres see previous page.

Arranged according to the number of holdings the provincial districts stand in order as under:—

Auckland	15,541	holdings.
Otago	13,989	„
Canterbury	10,854	„
Wellington	9,871	„
Taranaki	4,413	„
Hawke's Bay	3,271	„
Nelson	2,939	„
Marlborough	1,085	„
Westland	676	„

The occupied holdings of the North Island now considerably outnumber those of the Middle Island, the numbers being: North Island, 33,096; Middle Island, 29,543. In 1897–98 the holdings in the North Island were returned as 30,648, and in the Middle Island 30,111. For the year 1896–97 the returns showed 29,535 holdings for the Middle Island, against 29,369 for the North, besides 36 holdings at the Chatham Islands, of which no account was taken this or last year.

The full details of holdings and acreages for the year 1898–99 will be found in the table on the following page.

OCCUPATION OF LAND: NUMBER AND AREA OF HOLDINGS (INCLUDING CROWN PASTORAL LEASES).

Provincial Districts.	Total of Holdings.	1–10 Acres, inclusive.	Over 10–50 Acres, inclusive.	Over 50–100 Acres, inclusive.	Over 100–200 Acres, inclusive.	Over 200–320 Acres, inclusive.	Over 320–640 Acres, inclusive.	Over 640–1,000 Acres inclusive.	Over 1,000–5,000 Acres, inclusive.	Over 5,000–10,000 Acres, inclusive.	Over 10,000–20,000 Acres, inclusive.	Over 20,000–50,000 Acres, inclusive.	Over 50,000 Acres.
Auckland: Area in acres ...	5,040,470	14,922	82,205	153,539	335,887	353,887	530,451	360,963	1,068,907	523,045	432,682	523,976	660,006
Number of holdings ...	*15,541*	*4,947*	*2,783*	*1,937*	*2,238*	*1,368*	*1,205*	*441*	*496*	*74*	*28*	*17*	*7*
Taranaki: Area in acres ...	1,029,239	2,780	16,199	62,745	172,364	142,747	207,718	111,000	230,007	26,286	12,667	44,726	...
Number of holdings ...	*4,413*	*616*	*567*	*803*	*1,140*	*556*	*458*	*140*	*127*	*4*	*1*	*1*	...
Hawke's Bay: Area in acres ...	3,318,325	5,510	17,231	19,572	42,313	45,182	106,053	66,631	462,287	341,618	682,246	875,489	654,193
Number of holdings ...	*3,271*	*1,311*	*642*	*250*	*276*	*168*	*216*	*82*	*201*	*42*	*45*	*30*	*8*
Wellington: Area in acres ..	3,701,788	11,585	45,324	86,794	257,410	241,786	496,824	323,471	1,001,662	392,140	405,726	282,795	156,271
Number of holdings ...	*9,871*	*2,594*	*1,656*	*1,068*	*1,607*	*915*	*1,026*	*368*	*503*	*66*	*27*	*9*	*2*
Marlborough: Area in acres ...	2,213,260	1,678	5,096	8,039	24,054	27,929	67,216	40,458	168,853	103,766	158,358	467,938	1,139,875
Number of holdings ...	*1,085*	*434*	*160*	*79*	*134*	*76*	*74*	*23*	*60*	*12*	*9*	*15*	*9*
Nelson: Area in acres	1,899,745	3,174	18,658	31,672	66,282	68,400	121,760	88,246	229,786	60,735	96,190	385,305	729,337
Number of holdings ...	*2,939*	*675*	*642*	*396*	*443*	*265*	*268*	*104*	*110*	*11*	*6*	*12*	*7*
Westland: Area in acres ...	573,331	1,577	4,479	9,328	11,383	13,132	10,533	17,392	34,830	89,512	125,966	180,520	74,679
Number of holdings ...	*676*	*210*	*132*	*100*	*94*	*47*	*36*	*12*	*16*	*14*	*8*	*6*	*1*
Canterbury: Area in acres ...	6,311,491	13,238	65,621	95,469	188,000	206,883	369,961	261,938	984,509	421,962	512,278	1,224,513	1,967,119
Number of holdings ...	*10,854*	*3,433*	*2,346*	*1,255*	*1,264*	*797*	*807*	*307*	*490*	*56*	*36*	*39*	*24*
Otago: Area in acres	10,298,619	14,207	60,838	103,345	303,418	369,913	657,946	379,301	1,183,698	620,709	848,510	1,462,771	4,293,923
Number of holdings ...	*13,989*	*4,010*	*2,468*	*1,388*	*1,968*	*1,392*	*1,465*	*469*	*586*	*90*	*60*	*46*	*47*
Totals { Area in acres ...	34,386,268	68,671	315,651	570,503	1,401,171	1,409,859	2,568,462	1,649,580	5,364,539	2,579,773	3,274,623	5,448,033	9,675,403
Totals { *Number of holdings*	*62,639*	*18,230*	*11,426*	*7,276*	*9,164*	*5,584*	*5,555*	*1,946*	*2,589*	*369*	*220*	*175*	*105*

LIVE-STOCK.

A comparative table is presented showing the increase in live-stock since the year 1858. The figures are taken from the census as far as 1891, but for 1895–96 and following years the results of the enumeration made annually by the Department of Agriculture under "The Agricultural and Pastoral Statistics Act, 1895," have been made use of.

Year.	Horses.	Asses and Mules.	Cattle.	Sheep.	Goats.	Pigs.	Poultry.
1858 ..	14,912	122	137,204	1,523,324	11,797	40,734	*
1861 ..	28,275	153	193,285	2,761,383	12,191	43,270	236,098
1864 ..	49,409	339	249,760	4,937,273	12,005	61,276	378,414
1867 ..	65,715	323	312,835	8,418,579	11,964	115,104	676,065
1871 ..	81,028	397	436,592	9,700,629	12,434	151,460	872,174
1874 ..	99,859	267	494,917	11,704,853	14,276	123,921	1,058,198
1878 ..	137,768	241	578,430	13,069,338	14,243	207,337	1,323,542
1881 ..	161,736	362	698,637	12,985,085	11,223	200,083	1,566,114
1886 ..	187,382	297	853,358	16,564,595	10,220	277,901	1,679,021
1891 ..	211,040	348	831,831	18,128,186	9,055	308,812	1,790,070
1895–96	237,418	426	1,047,901	19,826,604†	*	239,778	*
1896–97	249,813	434	1,138,067	19,138,493†	*	209,834	*
1897–98	252,834	393	1,209,165	19,687,954†	*	186,027	*
1898–99	258,115	534	1,203,024	19,673,725†	*	193,512	*

* Not enumerated. † Numbers for April, 1895, 1896, 1897, and 1898.

The stock owned by Maoris in the year 1896, which is included above, comprised 314,406 sheep, and 29,125 head of cattle. The number of horses is not specified, but is known to be large.

TABLE SHOWING FOR EACH COUNTY IN NEW ZEALAND THE NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN 1898.

County.	Horses, November, 1898.	Cattle, including Calves, November, 1898.	Dairy Cows, included in foregoing.	Sheep, including Lambs, April, 1898.	Pigs, November, 1898.
Mongonui ..	1,937	6,806	795	24,293	2,285
Whangaroa ..	553	1,586	154	5,195	831
Hokianga ..	2,579	5,768	1,144	12,648	2,615
Bay of Islands ..	2,969	10,711	1,612	36,019	2,170
Hobson	1,810	10,191	2,026	16,772	1,887
Whangarei ..	3,552	24,879	6,583	46,329	1,678
Otamatea ..	1,383	11,682	1,840	51,787	693
Rodney	1,816	10,933	2,717	74,724	775
Waitemata ..	2,264	12,628	3,363	37,689	1,166
Eden	5,249	6,698	4,148	3,170	2,425
Manukau ..	7,523	43,820	15,861	91,287	6,115
Coromandel ..	693	3,094	662	12,756	309
Thames ..	1,218	2,837	1,041	6,422	1,005
Ohinemuri ..	1,911	4,139	677	3,706	1,337
Piako	2,042	27,710	2,219	184,516	1,213
Waikato ..	2,548	14,517	2,527	74,948	1,973
Waipa	3,050	18,609	5,310	40,701	4,028

TABLE SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, ETC.—*continued.*

County	Horses, November, 1898.	Cattle, including Calves, November, 1898.	Dairy Cows, included in foregoing.	Sheep, including Lambs, April, 1898.	Pigs, November, 1898.
Raglan	2,965	20,862	2,789	65,448	4,894
Kawhia	4,303	12,723	743	20,000	10,665
West Taupo	1,391	5,306	218	23,942	2,195
East Taupo	207	420	25	22,255	265
Rotorua	653	787	217	7,887	742
Tauranga	3,402	14,073	2,089	5,637	3,133
Whakatane	2,667	9,204	1,769	49,739	2,052
Waiapu	2,960	11,720	375	286,311	2,902
Cook	6,713	31,561	3,689	810,961	1,940
Clifton	1,045	13,476	3,644	22,537	1,432
Taranaki	5,401	60,976	28,457	28,349	9,663
Stratford	2,131	34,162	12,934	62,047	4,606
Hawera	6,105	70,783	24,542	151,682	9,215
Patea	2,876	23,084	4,754	222,365	1,680
Wairoa	3,079	6,970	911	528,345	1,412
Hawke's Bay	7,502	32,696	5,123	1,309,056	2,984
Waipawa	4,549	29,261	6,721	714,693	2,564
Patangata	2,711	26,356	670	756,654	497
Waitotara	2,097	11,360	2,336	170,843	1,166
Wanganui	4,476	15,978	2,911	391,345	2,644
Rangitikei	4,548	22,484	2,937	511,245	2,763
Oroua	4,842	25,738	8,884	366,676	5,295
Kiwitea	1,805	11,018	2,553	258,078	1,477
Pohangina	901	6,580	1,648	102,693	1,185
Manawatu	2,290	16,228	3,982	215,826	2,423
Horowhenua	2,361	16,419	3,779	177,455	2,555
Pahiatua	1,684	16,318	6,349	181,472	2,334
Wairarapa North	5,601	40,960	6,598	857,311	2,714
Wairarapa South	4,892	41,543	8,609	597,533	3,777
Hutt	4,373	13,857	7,906	223,598	2,667
Sounds	1,041	6,539	1,867	145,726	1,488
Marlborough	2,875	4,842	1,497	515,437	1,068
Kaikoura	958	2,607	863	188,575	605
Collingwood	1,130	6,749	1,876	47,750	1,687
Waimea	4,017	12,730	4,903	223,999	4,797
Buller	418	3,823	1,650	2,246	633
Inangahua	785	6,851	1,292	26,943	921
Amuri	1,264	4,394	335	413,281	105
Cheviot	782	2,150	901	182,697	344
Grey	634	5,552	1,688	11,905	762
Westland	1,355	10,556	2,286	16,075	828
Ashley	7,550	13,956	6,134	794,933	5,762
Selwyn	14,074	25,804	14,427	652,958	13,253
Akaroa	2,740	18,332	5,343	272,333	2,452
Ashburton	8,575	9,389	3,813	727,469	3,955
Geraldine	4,263	6,363	2,433	439,329	1,845
Levels	2,904	4,736	2,025	200,498	798
Waimate	4,102	6,336	2,199	574,295	1,655
Mackenzie	1,279	2,555	679	410,872	195
Waitaki	6,075	16,768	6,388	507,347	2,200
Waihemo	1,244	3,556	1,271	128,319	349
Waikouaiti	1,372	8,969	4,888	85,806	1,478
Peninsula	812	6,764	4,464	9,227	1,029

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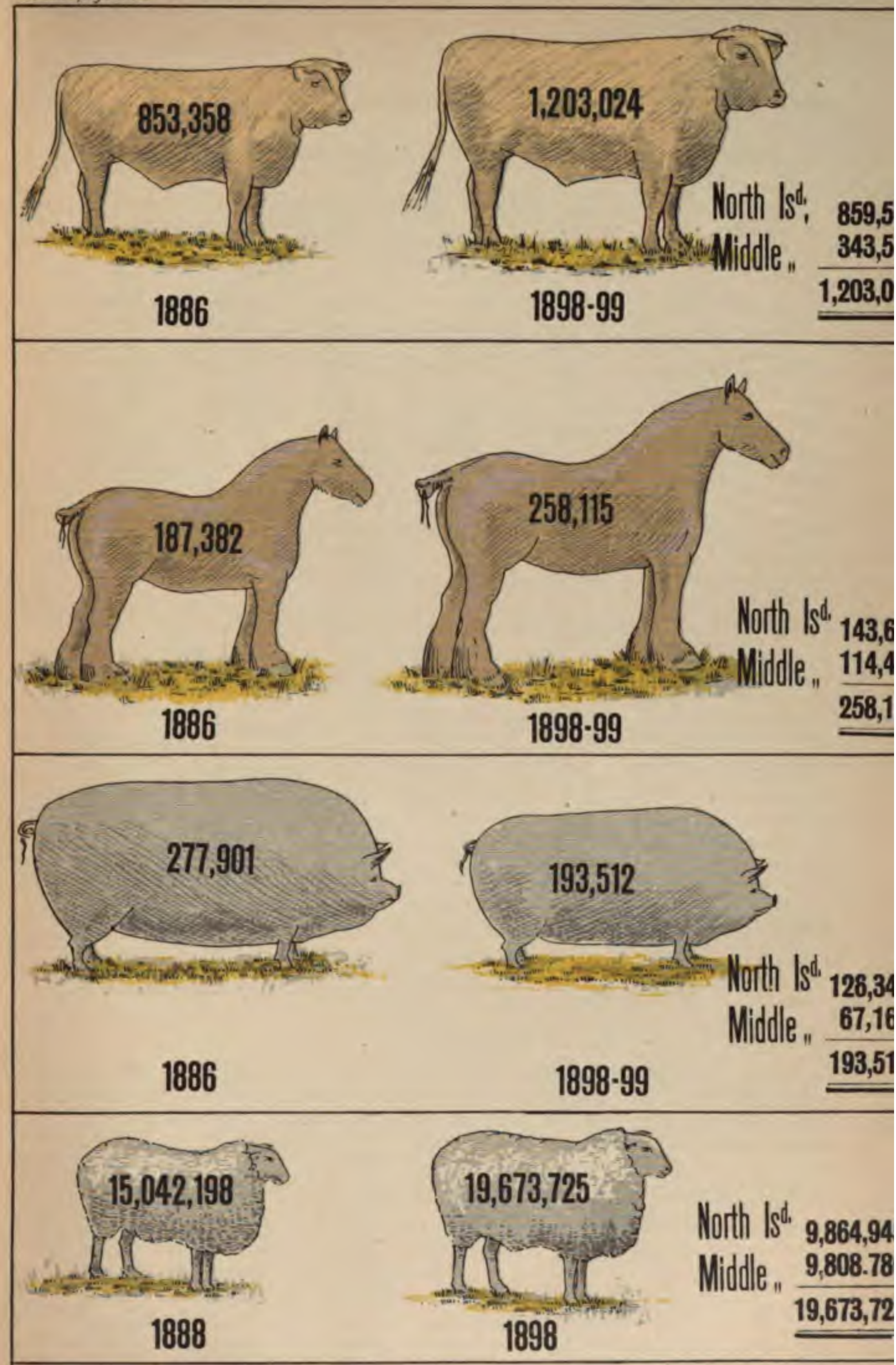

LIVE-STOCK.

TABLE SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, ETC.—*continued.*

County.	Horses, November, 1898.	Cattle, including Calves, November, 1898.	Dairy Cows, included in foregoing.	Sheep, including Lambs, April, 1898.	Pigs, November, 1898.
Taieri	6,690	22,593	10,065	223,384	3,789
Bruce	3,423	9,090	3,476	175,318	1,374
Clutha	4,648	16,363	5,433	302,254	1,961
Tuapeka ..	3,630	7,275	2,412	392,913	990
Maniototo ..	2,174	6,952	1,593	328,704	409
Vincent.. ..	2,060	5,045	1,304	315,312	995
Lake	1,482	3,579	1,046	164,746	644
Southland ..	15,356	60,402	19,082	877,522	7,415
Wallace and Fiord	4,766	21,610	4,970	450,607	1,371
Stewart Island ..	10	283	92		9
Totals ..	258,115	1,203,024	333,536*	19,673,725	193,512

* Not including 37,649 heifers over two years old intended for dairying.

Live-stock in Australasian Colonies.

The following gives the number of the principal kinds of live-stock in the several Australasian Colonies for the year 1897 :—

	Horses.	Cattle.	Sheep.	Pigs.
Queensland	479,280	6,089,013	17,797,883	110,855
New South Wales	497,934	2,085,096	43,952,897	207,738
Victoria (1894)	431,547	1,833,900	13,180,943	337,588
South Australia	164,820	274,255	5,032,541	46,894
Western Australia	62,222	244,971	2,210,742	31,809
Tasmania..	29,898	157,486	1,588,611	43,520
	1897-98.	1897-98.	30th April, 1897.	1897-98.
New Zealand	252,834	1,209,165	19,687,954	186,027

New Zealand thus takes second place in order for number of sheep, and fourth for the number of her cattle and horses.

Sheep.

The returns made to the Department of Agriculture show a smaller number of sheep for the years 1886 and 1891 than the census figures given previously, because the account was taken later in the year. The particulars are given for thirteen years, distinguishing the number for the North from that in the Middle Island.

According to these returns, the flocks of the North Island increased from 5,285,907 sheep in the year 1886 to 9,864,945 in 1898, or at the rate of nearly 87 per cent., while sheep in the Middle Island decreased from 9,888,356 to 9,808,780 a loss of not quite 1 per cent. in the same period. For the North Island the increase during the thirteen years was 4,579,038 sheep, while for the Middle Island there was an actual loss of 79,576.

Year.	North Island.	Middle Island.	Total.
1886	5,285,907	9,888,356	15,174,263
1887	5,506,485	9,649,141	15,155,626
1888	5,668,996	9,373,202	15,042,198
1889	5,990,244	9,433,084	15,423,328
1890	6,588,346	9,527,767	16,116,113
1891	7,159,927	9,593,825	16,753,752
1892	8,204,029	10,366,723	18,570,752
1893	8,685,361	10,695,008	19,380,369
1894	9,169,352	11,061,477	20,230,829
1895	8,994,646	10,831,958	19,826,604
1896	9,131,736	10,006,757	19,138,493
1897	9,540,717	10,147,237	19,687,954
1898	9,864,945	9,808,780	19,673,725

Notwithstanding a decrease of 14,229 in the number of sheep since April, 1897, by the above figures, the increase between 1891 and 1898 amounted to 2,919,973, or at a rate of 17·43 per cent. The export and local consumption of wool developed from 111,537,546 lb. for the year ended September, 1891, to 154,165,230 lb. for the corresponding year of 1898. The export of sheepskins and pelts, which in 1890 was 2,292,521 in number, rose to 4,995,325 in 1898.

The number of sheep has been well maintained, notwithstanding the slaughter needed for an export of frozen mutton increasing from 898,894 cwt. in the year 1890 to 1,338,175 cwt. (upwards of three million carcases of sheep and lambs) in 1898.

The proportion of small flocks of sheep has increased very considerably year by year, and with smaller flocks the rabbit difficulty is easier to master than with large ones.

Number of Flocks, 1886, 1891, 1896, 1897, and 1898.

Size of Flocks.	1886.	1891.	1896.	1897.	1898.
Under 500	6,024	8,272	12,028	12,706	12,886
500 and under 1,000	1,189	1,691	2,605	2,623	2,708
1,000 „ 2,000	747	969	1,460	2,421*	2,412*
2,000 „ 5,000	532	666	892		
5,000 „ 10,000	263	287	340	347	341
10,000 „ 20,000	228	239	231	226	231
20,000 and upwards	166	169	147	145	144
	9,149	12,293	17,703	18,468	18,722

The average size of the flocks is found to have been 1,659 sheep

---

	1897.	1898.
* From 1,000 to 2,500	1,806	1,798
„ 2,500 to 5,000	615	614
	2,421	2,412

for 1886, 1,363 for 1891, 1,081 in 1896, 1,066 in 1897, and 1,051 in 1898.

Of the provincial districts that of Canterbury had most sheep in 1898, Wellington came next, and Otago occupied the third place. The full particulars, with increases or decreases since 1897, are:—

Provincial Districts.	No. of Sheep in 1898.	No. of Sheep in 1897.	Increase.	Decrease.
Canterbury ..	4,072,687	4,379,249	..	306,562
Wellington ..	4,054,075	3,952,984	101,091	..
Otago ..	3,961,459	4,021,065	..	59,606
Hawke's Bay	3,308,748	3,250,577	58,171	..
Auckland ..	2,015,142	1,880,692	134,450	..
Nelson ..	896,916	873,502	23,414	..
Marlborough	849,738	842,185	7,553	..
Taranaki ..	486,980	456,464	30,516	..
Westland ..	27,980	31,236	..	3,256
	19,673,725	19,687,954	..	Net dec. 14,229

The decrease of 14,229 sheep is confined to three Provincial Districts, Canterbury, Otago, and Westland; the other six showing increases, and in Auckland, Wellington, and Hawke's Bay substantial ones.

It has been estimated that the annual consumption of mutton in New Zealand is equivalent to 2·25 sheep per inhabitant, and that the number of sheep required in the present year (1899) for food will be about 1,780,000. (Maoris, for the purposes of this calculation, have been included.)

Two important advantages that sheep-farming has in New Zealand are mentioned by Mr. J. A. Johnstone in the Year-book for 1894. They are: (1) the low cost of the production of mutton, (2) the high percentage of natural increase. Respecting the first point, it has been proved beyond all doubt that, under ordinary conditions, the very choicest of mutton can be so produced as to pay the grower handsomely when sold at 2d. per pound for the carcase at the nearest shipping-port. To the British sheep-farmer this statement, of course, is valueless by itself; but, when told that this mutton would cost the London butcher, delivered *ex* steamer at the dock, only 3½d. per pound, he will be able to realise in some measure what a wonderful grazing-country New Zealand is, and to understand how it is that settlers of the right stamp have done so well. Then, with regard to the high percentage of increase, there need only be cited a few average returns from well-known flocks to show what excellent lambings New Zealand farmers obtain under good management.

LAMBING RETURNS.—AVERAGES.

Locality.	Breed of Flock.	Breed of Rams.	Breed of Ewes.	No. of Ewes.	Percentage of Lambs.	Remarks.
North Island ..	Lincoln	Lincoln	Lincoln	7,517	81·04	Land merely surface-sown in English-grass pasture.
„ ..	„	„	„	5,301	85·05	
„ ..	„	„	⅞ Lincoln	12,177	100·00	
„ ..	Romney	Romney	Romney	1,141	96·17	
„ ..	Lincoln	Southd'n	Lincoln	2,033	94·71	
Middle Island	Merino	Merino	Merino	14,765	75·36	Mountainous country in n'tive past're, unimproved.
„ ..	„	B. Leic'str	„	4,235	88·94	
„ ..	Cross-bred	„	Cross-bred	8,624	80·82	In English-grass pasture.
„ ..	Half-bred	„	Half-bred	2,747	82·79	
„ ..	B. Leic'str	„	B. Leic'str	778	90·77	
„ ..	Lincoln	Lincoln	Lincoln	452	88·08	
„ ..	R. Marsh	R. Marsh	R. Marsh	253	111·46	
„ ..	E. Leic'str	E. Leic'str	E. Leic'str	464	93·34	
„ ..	Shropshire	Shropshire	Shropshire	168	97·41	
„ ..	Southd'n	Southd'n	Southd'n	114	96·87	

The above returns are fair average ones, but much higher might have been shown if exceptional cases had been selected.

As showing the actual cost of managing two large estates in New Zealand (Middle Island), No. 1 carrying 20,000 cross-bred sheep, and No. 2 carrying 40,000, the subjoined table may prove interesting:—

	No. 1. Per Head.	No. 2. Per Head.
	s. d.	s. d.
Cost of shearing, including scouring and putting wool f.o.b.	0 6·5	0 6·3
Management, shepherding, dipping, &c.	0 10	0 9·6
Cost of providing special feed (turnips, green feed, chaff, &c.)	1 1	1 6·3
Cost of renewing English grass ..	2 0	1 5
Total per head	4 5·5	4 3·2

Cattle.

The increase of cattle between 1891 and 1896 was 216,070, or at the rate of 25·98 per cent. The rapid development of the butter and cheese industry, shown on page 275, as to manufacture, also on pages 249–50 and 254, as to trade, created a requirement for milch cows, which increased in number from 206,906 in 1891 to 276,217 in 1896, or at the rate of 33·50 per cent.

The cattle as enumerated in 1898–99 for each provincial district are given in the next table. Although the total number is 6,141 fewer than in 1897–98, there is nevertheless an increase of no less than 10,592 in the number of cows and heifers for dairy purposes.

Provincial District.	Bulls for Stud Purposes.	Steers over Two Years Old.	Cows and Heifers for Dairy Purposes.	Cows and Heifers for Breeding Purposes.	Cows and Heifers for Fattening.	Steers and Heifers under Two Years not otherwise enumerated.	Totals.
Auckland	5,151	68,085	74,474	44,342	18,054	113,158	323,264
Taranaki	3,153	29,990	81,031	5,444	7,214	75,649	202,481
Hawke's Bay ..	1,214	19,534	15,393	22,963	4,044	32,135	95,283
Wellington ..	3,329	45,220	64,622	35,739	12,046	77,527	238,483
Marlborough ..	252	1,945	4,662	860	925	5,344	13,988
Nelson	587	6,634	12,504	1,758	2,611	12,603	36,697
Westland	237	3,947	4,524	1,384	937	5,079	16,108
Canterbury ..	1,321	11,370	39,288	1,445	6,569	27,478	87,471
Otago	3,434	28,097	74,687	13,373	8,635	61,023	189,249
Totals, 1898–99 ..	18,678	214,822	371,185[*]	127,308	61,035	409,996	1,203,024
" 1897–98 ..	17,734	210,669	360,593[*]	124,942	54,389	440,838	1,209,165
Increase ..	944	4,153	10,592	2,366	6,646	[†]-30,842	[†]-6,141

Classified according to breed, the numbers for the two years under review are:—

	1898-99.	1897-98.
Pure-bred—		
Shorthorn	44,742	61,964
Hereford	6,602	6,265
Polled Angus	9,434	10,774
Ayrshire	5,241	6,545
Jersey	3,096	3,535
Other pure-breds	2,734	2,564
Crosses	1,131,175	1,117,518
Totals	1,203,024	1,209,165

Out of a total of 1,203,024 cattle in the colony, the North Island is shown to have had 859,511, or 71 per cent., while the Middle Island had 343,513, or 29 per cent. Similarly, the dairy cows and heifers intended for dairying in the North Island numbered 235,520, and in the Middle Island 135,665.

Thus, the North Island, which now leads as regards number of sheep, contains also considerably more dairy cows and other cattle.

Of the total number of cattle (1,203,024) given above, 333,536 were dairy cows. It is found impossible to give a statement of the actual amount of butter and cheese made in 1897–98, even at the factories only. All that can be said is that there were in September, 1898, 222 cheese and butter factories and creameries, with 146 skimming-stations, reported to the Department of Agriculture. But of the 222 factories known to be in existence, 133 made no return to the department of their output for the previous year, and it is therefore impossible to arrive at the total quantity of cheese and butter made. The census returns for 1896 show there were in that year only 170 factories and 105 creameries, the annual output at that time amounting to 11,336,776 lb. of butter and 4,323 tons of cheese.

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[*] Including heifers over two years old intended for dairying: 37,649 in 1898-99, and 36,108 in 1897-98. For actual number of dairy cows in each county see table on pages 325-27 *ante*.

[†] Decrease.

Horses.

The increase in horses is shown for three census years:—

Census Years.	Number of Horses.	Numerical Increase.	Increase per Cent.
1886	187,382		
1891	211,040	23,658	12·63
1896	237,418	26,378	12·50

At the enumeration made in 1898–99 (November to January), the number of horses was found to have increased to 258,649 (including 534 mules and asses), for which particulars are given. It will be seen that the Provincial District of Auckland had by far the most horses, Otago and Canterbury following, Wellington taking fourth place.

Provincial District.	Entires.	Geldings.	Mares over Two Years old.	Mares with Foal at Foot, or to foal this Season.	Colts and Fillies under Two Years old.	Totals.
Auckland ..	751	31,573	21,383	5,811	9,031	68,549
Taranaki ..	128	8,241	6,101	1,323	1,769	17,562
Hawke's Bay ..	132	8,618	6,024	1,368	1,803	17,975
Wellington ..	332	19,010	14,790	2,342	3,422	39,896
Marlborough ..	49	2,225	1,787	319	497	4,877
Nelson	116	3,949	2,862	602	880	8,409
Westland ..	28	937	653	124	249	1,991
Canterbury ..	357	21,332	16,839	2,635	4,468	45,631
Otago	371	24,044	20,611	3,311	5,422	53,759
Totals 1898-99.	2,264	119,959	91,050	17,835	27,541	258,649*
" 1897-98	2,407	116,228	89,444	18,433	26.715	253,227*
Increase ..	..	3,731	1,606	..	826	5,422
Decrease ..	143	..	..	598	..	..

* Including 534 mules and asses in 1898–99, and 393 in 1897–98.

Classified according to breed, the numbers for the two years under review are:—

	1898–99.	1897–98.
Thoroughbred	5,617	6,261
Hunter and hackney	27,936	28,057
Carriage and trotting	16,776	15,272
Light ordinary	106,347	102,238
Draught	90,349	88,390
Ponies under 14 hands	11,090	12,616
Mules and asses	534	393
Totals	258,649	253,227

It has long been expected that the export of New Zealand horses to Australia and India would assume large proportions. So far, however, the trade has not developed to the extent anticipated. The opinion has been often expressed that more might be done than has been in the past. The following figures will show the position for the years 1885, 1890, 1895, 1896, 1897, and 1898 :—

Exported to	1885.	1890.	1895.	1896.	1897.	1898.
Victoria	133	92	10	22	34	41
New South Wales	2,687	197	53	53	26	39
Tasmania	113	27	1	1	23	1
Fiji	32	57	12	2	2	3
Bengal	34	235	94	151	55	116
Brazil	..	2	..	..	..	..
South Sea Islands	13	18	15	14	11	9
United Kingdom	..	..	5	6	1	1
United States of America (W. Coast) ..	10	..	3	..	..	..
	3,022	628	193	249	152	210

Pigs.

Pigs have decreased since 1891, when the number was 308,812, against 193,512 in 1898–99. The figures given in the accompanying table are those compiled by the Agricultural Department, and for 1898–99 show an increase of 7,485 in the total number of pigs kept in the previous year. The Auckland Provincial District has far more pigs than any other.

NUMBER OF PIGS IN EACH PROVINCIAL DISTRICT.

Provincial District.	Boars for Stud Purposes.	Barrows and Sows over One Year old, for Fattening.	Sows kept solely for Breeding Purposes.	Barrows and Sows under One Year old.	Totals
Auckland ..	1,493	12,166	9,042	38,592	61,293
Taranaki ..	658	2,111	3,347	20,480	26,596
Hawke's Bay ..	196	1,043	1,185	5,033	7,457
Wellington ..	772	2,961	4,515	22,752	31,000
Marlborough ..	91	572	414	2,084	3,161
Nelson ..	175	1,847	1,042	5,423	8,487
Westland ..	45	175	215	1,155	1,590
Canterbury ..	497	1,817	3,450	24,151	29,915
Otago	549	3,067	2,993	17,404	24,013
Totals, 1898–99	4,476	25,759	26,203	137,074	193,512
„ 1897–98	4,247	27,446	24,338	129,996	186,027
Increase ..	229	..	1,865	7,078	7,485
Decrease ..	..	1,687	..	..	..

The approximate numbers of the different breeds were :—

	1898-99.	1897-98.
Pure Berkshire	27,695	32,570
Pure Yorkshire	3,696	4,446
Other pure-breds	711	394
Crosses	161,410	148,617
Totals	193,512	186,027

Ostrich-farming.

Ostrich farming has been attempted in New Zealand, both in Canterbury and Auckland. (See Year-book, 1897, page 313.) See also special article in Part III. of this book, entitled "The Heir of the Moa."

SECTION XVII.—MINING.

The natural mineral resources of New Zealand are very great, and have exercised in the past a most important influence on the development and progress of the colony. Gold to the value of £54,453,325 was obtained prior to the 31st December, 1898; the value of the produce for the year 1898 having been £1,080,691. In the earliest years the gold was obtained from alluvial diggings, but at the present time much is taken from gold-bearing quartz, which is distributed widely through several parts of the colony, and thus there is a much better prospect of the permanency of this industry than alluvial diggings could give. The greater portion of the gold obtained is, however, still got from alluvial workings.

The yield of silver to the end of 1898 amounted to £235,831 in value, the quantity mined in 1898 having been 293,851 oz., valued at £33,107.

Of other minerals, the value of the product to the same date amounts to £16,056,124, of which kauri-gum yielded £9,099,619, and coal, with coke, £6,705,802.

The quantities and values of precious metals and minerals obtained during the year 1898, and the total value of all mining produce since 1853, are:—

	1898.		Total Value since 1853.
	Oz.	£	£
Gold	280,175	1,080,691	54,453,325
Silver	293,851	33,107	235,831
	574,026	1,113,798	54,689,156
	Tons.		
Copper-ore	2¼	70	17,938
Chrome-ore	..	..	37,367
Antimony-ore	..	..	52,361
Manganese-ore	217	703	59,237
Hæmatite-ore	..	..	226
Mixed minerals	..	4,792	83,574
Coal	907,033	453,517	6,681,007
Coke (exported)	9	14	24,795
Kauri-gum	9,905	586,767	9,099,619
		£2,159,661	£70,745,280

Of the gold entered for exportation during the year ended the 31st March, 1899—viz., 303,525 oz., representing a value of £1,168,930—over 55 per cent. came out of quartz-mines; but, if the total yield of gold obtained in the colony be taken, the value of which to 31st March, 1899, is £54,813,374, about 24 per cent. came from quartz-mines, and 76 per cent., from alluvial workings.

GOLD-MINING.

The history of the finding of gold in this colony was briefly sketched in the Year-books for 1893 and 1894, and need not, therefore, be repeated here, but a word may be said on recent developments in mining. Great changes have taken place snice the early days, when a man wanted but a pick and shovel, tin dish and cradle, to enable him to earn a livelihood on the diggings. The rich shallow gravels have been to all appearances worked out, the ground is getting deeper, the inroads of water more troublesome, and greatly-improved appliances are needed in order to pump the water or wash away the masses of drift that overlie the gold-bearing layers on the bottom.

The difficulty for many years experienced in working the beds of the larger rivers has been at last overcome by the use of dredging machinery. Dredging has not only been adopted for working river-beds, but has also been applied to great advantage on river flats, which cannot be profitably worked by any other means. So successful, indeed, has this method proved, that it seems likely to develop into a very considerable branch of the mining industry. A special account of it is given in Part III.

So numerous are rapid streams and rivers in New Zealand that water is easily available for supplying direct motive-power for all kinds of mining machinery, as well as for the generation and transmission of electric energy where the water-supply is distant from the scene of operations. It has been used at Skipper's for years to generate electricity by means of dynamos, the current being transmitted a distance of several miles over a high range for the purpose of driving a crushing battery. Great improvements have been made in the appliances since the method was first adopted, and at present some 67 per cent. of the power required to generate electricity is obtained in this way.

Skipper's was the first place in New Zealand, if not in the world, where electricity was used to drive a crushing battery; and it is now used at the Premier Mine, Macetown, on the Arrow River, for mine haulage. Electricity has been adopted with equal success at the Brunner coal-mines, near Greymouth, for working the haulage and pumping machinery. It is also used for mining purposes at the Westport Coal Company's Denniston mines.

The total number of gold-miners employed in 1897–98 was 14,198, as against 14,949 for the previous year. In some places, more especially in Otago, Nelson, and the West Coast, many of the miners do not depend entirely on mining, but employ a part of their time in farming and other pursuits.

The total quantity of gold entered for export during the years ending 31st March, 1898, and 31st March, 1899, for the several districts, and the total quantity and value of the gold exported from the colony from the 1st January, 1857, to the 31st March, 1899, are shown on the next page, but this does not necessarily include the whole of the gold produced, as no doubt much has been taken out of the colony from time to time by people who have evaded the duty, and a good deal has been used for making jewellery and ornaments:—

TABLE SHOWING THE QUANTITY AND VALUE OF GOLD ENTERED FOR EXPORTATION FROM NEW ZEALAND FOR THE YEARS ENDED THE 31ST MARCH, 1898 AND 1899, AND THE TOTAL QUANTITY AND VALUE FROM JANUARY, 1857, TO 31ST MARCH, 1899.

District.	Year ending 31st March, 1898.		Year ending 31st March, 1899.		Increase for Year ending 31st March, 1899.	Total Quantity and Value from January, 1857, to 31st March, 1899.	
	Quantity.	Value.	Quantity.	Value.			
	Oz.	£	Oz.	£	Oz.	Oz.	£
Auckland ..	108,490	401,602	148,183	545,463	39,693	2,315,558	8,715,729
Wellington..	..	..	..	..	..	188	706
Marlborough	619	2,400	621	2,406	2	86,231	335,838
Nelson ..	758	2,853	1,720	6,882	962	255,440	1,008,888
West Coast..	66,121	264,481	74,700	298,824	8,579	5,819,170	23,129,992
Canterbury..	..	..	12	49	12	60	241
Otago ..	75,504	304,862	78,289	315.306	2,785	5,461,898	21,621,980
Totals ..	251,492	976,198	303,525	1,168,930	52,033	13,938,545	54,813,374

It will be seen from the above table that there was last year an increase in the yield of gold of 52,033 oz., or 20·69 per cent. on the figures for the preceding twelve months. Each gold-mining district showed an increased output, the Auckland fields in particular yielding no less than 39,693 oz. more than in the previous year.

Of the total quantity of gold entered for exportation last year Auckland contributed 48·82 per cent.; Marlborough, 0·21 per cent.; Nelson, 0·57 per cent.; West Coast, 24·61 per cent.; and Otago, 25·79 per cent.

Production of Australasian Goldfields.

The gold yield of the Australasian Colonies for 1896 and 1897 is given in the *Australasian Insurance and Banking Record* for March, 1898, as under:—

	1896.	1897.
	Oz.	Oz.
Victoria	805,087	812,765
Queensland	640,385	796,885
New South Wales	296,072	292,217
Western Australia	281,265	675,082
New Zealand	263,722	251,645
Tasmania	62,591	60,735
South Australia	29,004	10,322
	2,378,126	2,899,651

The increase is 521,525 oz. The mint value of Australasian gold averages £3 16s. per ounce, and a comparison of value is therefore as follows: 1896, £9,036,879; 1897, £11,018,674: increase, 1897, £1,981,795.

Production of the World's Goldfields.

The following extracts from the *Statist* of the 25th September, 1897, show approximately the gold production of the world, and bring forcibly under notice the value of the Australasian Colonies as gold producing countries. For 1896 the production by fields was as under:—

	£
United States	10,800,000
Australasia	8,988,000
Transvaal	8,604,000
India	1,245,000
Russia and other countries	15,363,000
Total	£45,000,000

ESTIMATED WORLD'S PRODUCTION, 1888–1896.

Year.	£
1888	21,985,000
1889	23,835,000
1890	24,260,000
1891	26,700,000
1892	29,900,000
1893	32,600,000
1894	36,765,000
1895	41,000,000
1896	45,000,000
Total	£282,045,000

For Australasia, 1850 to 1896, the official grand aggregates of all the years are as follows:—

	£
Victoria	243,841,000
New South Wales	43,400,000
New Zealand	52,393,000
Queensland	39,189,000
Tasmania	4,417,000
South Australia	1,983,000
West Australia	4,100,000
Total, 1850 to 1896, Australasia	£389,323,000

The total world production of gold since 1850 has been, approximately, 300,000,000 oz., worth, in round figures, £1,163,000,000.

The chief producers of gold over the whole period from 1850 to 1896 have been as undermentioned:—

	£
United States	417,980,000
Australasia	389,323,000
Transvaal	42,331,000
Indian mines	5,911,000
All other countries	307,455,000
Total, 1850 to 1896, the World ..	£1,163,000,000

The Cyanide Process.

In the Otago, Reefton, and Nelson districts the gold in the reefs generally occurs in a fairly free-milling state, presenting little difficulty in its recovery. In the Hauraki goldfields, however, only a small proportion of the gold is free-milling, the remainder existing in what is known as a refractory state—that is, the gold occurs either in so finely divided a form that the ordinary methods of amalgamation fail to recover a payable percentage, or it is associated with, or entangled in, base metallic minerals which necessitate the adoption of scientific, and often costly, methods of treatment. In these goldfields the successful use of the cyanide process is steadily extending, with the result that many ores that formerly were worked at a loss by amalgamation processes now yield regular returns on the capital invested.

Indeed, the cyanide process is the most noteworthy improvement as yet introduced in the treatment of gold- and silver-bearing ores. It is particularly suitable where the gold is found in the ore in fine particles; whereas, if the gold be at all coarse, cyanide will do no more than cleanse and brighten its surface and render it fitter for amalgamation. The process may be briefly described thus: The quartz is first dry-crushed, and the dust passed through a screen. The pulverised ore is then emptied into a vat into which a cyanide solution is introduced. The gold in the ore is dissolved by the cyanide, and, in order to separate the two, the liquor is leached off and run into a trough containing zinc shavings, where the action of the zinc precipitates the gold in a pulpy form. The tailings from the leaching-vats are run over tables covered with copper-plates coated with quicksilver, and any particles of gold remaining in them are by this means arrested on the plates. It was at one time thought that dry-crushing would be a very expensive mode of reducing the ore, but the Waihi Company have proved the contrary. The cost of drying and crushing ready for the leaching-process is under 6s. a ton, and more gold is obtained in this way than was formerly the case in the ordinary way of wet-crushing. It is found that in the latter process much of the precious metal not caught in the amalgamating tables or retained in the tailings is carried off with the water. The quantity of water necessary to clear the tables was such as to carry off gold with the slimes before it could come in contact with the mercury on the tables.

The two main obstacles in the way of the process are: First, the difficulty of reducing the base metals found in gold- and silver-bearing ores, of which copper and antimony are the most refractory; second, the trouble experienced in leaching ore in a slimy state, as the slime absorbs the cyanide solution, and is thereby enriched with gold. It then sets so closely that the gold solution cannot be filtered.

Notwithstanding what has been stated above, recent experiments have demonstrated that in some respects the wet-crushing process has advantages. In this case a solution of cyanide of potassium is used in the mortar-boxes instead of water, a much less quantity of solution being necessary in keeping the boxes free than formerly, when water was used for crushing and amalgamation. Another improvement has also been effected in making an equal distribution of the finer slimes and coarser particles of the tailings, and by this means a more ready percolation is effected than is the case when the vats were charged with dry tailings. The wet crushing process has been adopted by the New Zealand Crown Mines Company, at Karangahake, by the Waitekauri Gold-mining Company, and in other places. One great benefit from it is that the dust nuisance is done away with, and the health of those working at the batteries is likely to be greatly improved in consequence.

By a statute passed in December, 1897, and termed "The Cyanide Process Gold-extraction Act, 1897," an agreement was approved by Parliament under which the Government arranged to purchase the patent rights in New Zealand of the Cassel Gold-extracting Company, thus rendering the said patent rights available for mining purposes at reasonable rates of royalty. The process used under the patent is what is commonly known as the cyanide process, and the operation of the Act should prove highly important in the development of low-grade ores, and otherwise promote the mining industry. The royalties received by the Government up to the 31st March, 1899, amounted to £1,774 18s. 7d.

Quartz and Alluvial Workings.

The working of quartz mines and deep alluvial drifts necessitates a large outlay of money before returns can be expected, and can only be undertaken when capital is available. In the case of quartz mines, they must be sufficiently opened up to ascertain the value and extent of the reefs preparatory to the erection of reduction machinery, which must be constructed on the most modern principles to insure efficiency and economy in the handling and treatment of large bodies of ore.

The introduction of capital has the effect of enabling the claims not only to be opened up at greater depths than heretofore, but they will also be worked in a more systematic and economical manner. Modern machinery and appliances are introduced and erected for the reduction and treatment of the ores, and it is expected that a far larger percentage of the gold will be recovered than has been the case in the past.

The improved appliances introduced in dredging and hydraulic elevating and sluicing machinery have made it possible to work with profit alluvial ground and drifts that a few years ago could not be handled remuneratively.

In the successful development of alluvial drifts containing only a few grains of gold to the ton or cubic yard, a large and constant supply of water is of primary importance, and to secure this the construction of expensive races must be undertaken as the initial step towards systematic working.

In the colony there are large areas covered with auriferous drifts which will prove remunerative if a sufficient quantity of water can be obtained to work them on an extensive scale; and the number of men who can be profitably employed in alluvial workings will necessarily be in proportion to the quantity of water available.

The deep leads of the West Coast, such as those at Ross and Kumara, still attract attention, and, with systematic working and careful management, promise a continuance of profitable employment to the miner.

COAL-MINING.

The vast extent of coal-measures in New Zealand will make coal-mining one of the largest industries in the colony, especially on the west coast of the Middle Island, where bituminous coal exists equal, if not superior, in quality to coal of the same class in any part of the world.

The progressive increase in the output of coal from 1878 to the end of 1898 is shown below:—

Year.	Raised in the Colony.		Imported.	Total raised in the Colony, and imported, per Annum.	Exported (excluding Coal for Fuel by Ocean Steamers).	Total Consumption of Coal within the Colony.	Yearly increase in Consumption within the Colony.
	Total.	Yearly Increase.					
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1878 ..	162,218	..	174,148	336,366	3,921	332,445	..
1879 ..	231,218	69,000	158,076	389,294	7,195	382,099	49,654
1880 ..	299,923	68,705	123,298	423,221	7,021	416,200	34,101
1881 ..	337,262	37,339	129,962	467,224	6,626	460,598	44,398
1882 ..	378,272	41,010	129,582	507,854	4,245	503,609	43,011
1883 ..	421,764	43,492	123,540	545,304	7,172	538,132	34,523
1884 ..	480,831	59,067	148,444	629,275	6,354	622,921	84,789
1885 ..	511,063	30,232	130,202	641,265	2,371	638,894	15,973
1886 ..	534,353	23,290	119,873	654,226	2,862	651,364	12,470
1887 ..	558,620	24,267	107,230	665,850	12,951	652,899	1,535
1888 ..	613,895	55,275	101,341	715,236	27,678	687,558	34,659
1889 ..	586,445	-27,450*	128,063	714,508	39,290	675,218	12,340
1890 ..	637,397	50,952	110,939	748,336	33,404	714,932	39,714
1891 ..	668,794	31,397	125,318	794,112	29,093	764,019	49,087
1892 ..	673,315	4,521	125,453	798,768	28,169	770,599	6,580
1893 ..	691,548	18,233	117,444	808,992	24,288	784,704	14,105
1894 ..	719,546	27,998	112,961	832,507	25,449	807,058	22,354
1895 ..	726,654	7,108	108,198	834,852	26,151	808,701	1,643
1896 ..	792,851	66,197	101,756	894,607	27,974	866,633	57,932
1897 ..	840,713	47,862	110,907	951,620	26,639	924,981	58,348
1898 ..	907,033	66,320	115,427	1,022,460	18,348	1,004,112	79,131

* Decrease.

It will be seen from the above that there has been a steady increase in the output of coal from the mines in the colony, year after year, since records have been kept by the Mines Department—with the exception of 1889. The yearly increase in output is principally due to the growing demand for consumption within the colony. During a period of twenty years the annual consumption of coal in New Zealand has increased to the extent of 671,667 tons, showing that new industries are quickly springing up, requiring fuel for generating motive-power.

The total output from the mines last year was 907,033 tons, as

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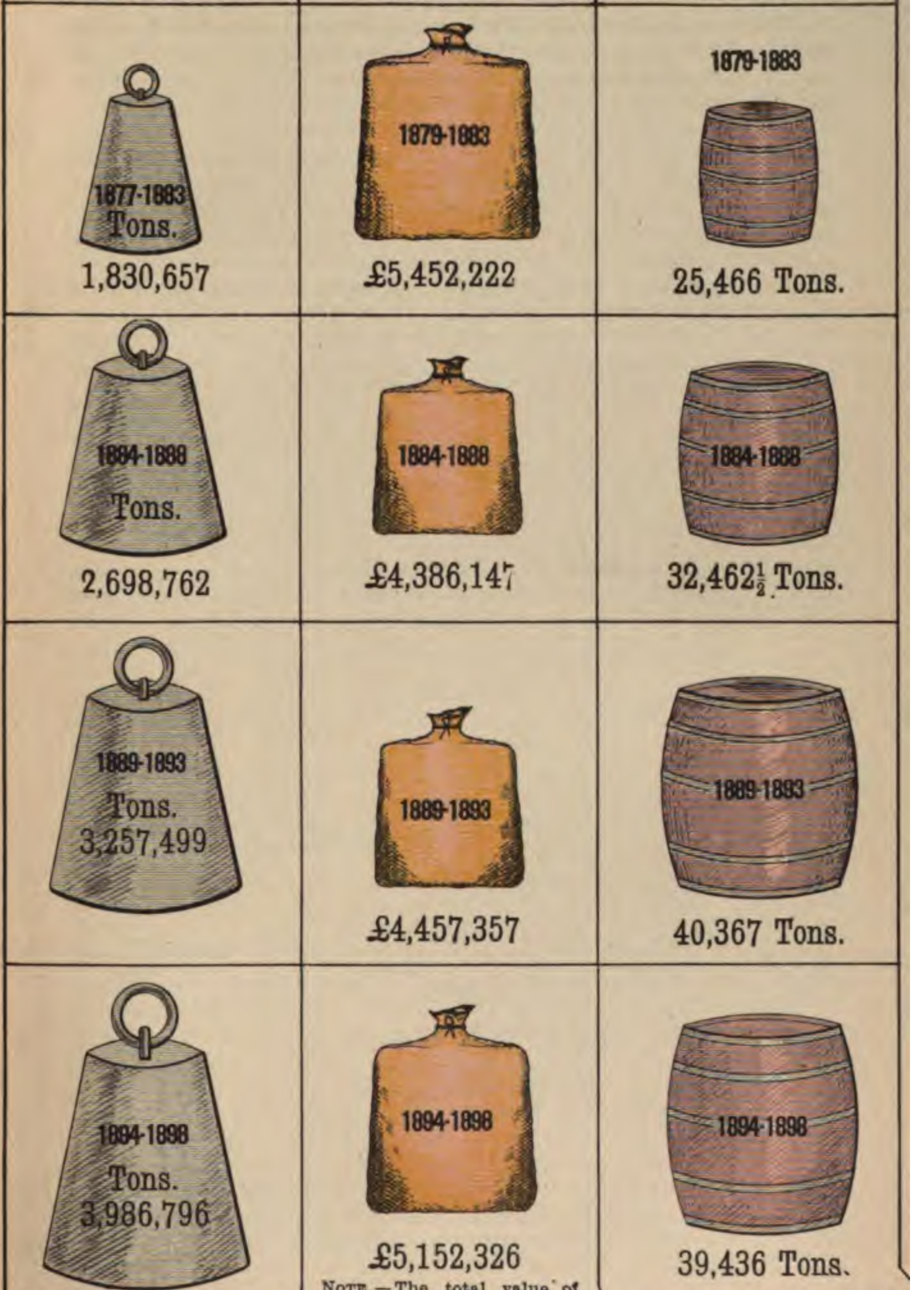
MINING.



Output of Coal, 1877-1898.	Gold entered for Export, Value of, in £ sterling, 1879-1898.	Export of Kauri-gum, 1879-1898.
1877-1883 Tons. 1,830,657	1879-1883 £5,452,222	1879-1883 25,466 Tons.
1884-1888 Tons. 2,698,762	1884-1888 £4,386,147	1884-1888 32,462½ Tons.
1889-1893 Tons. 3,257,499	1889-1893 £4,457,357	1889-1893 40,367 Tons.
1894-1898 Tons. 3,986,796	1894-1898 £5,152,326	1894-1898 39,436 Tons.
NOTE.—The total quantity of *Coal raised in the colony since 1877 amounted to 11,773,714 Tons.*	NOTE.—The total value of Gold entered for duty for export from 1857 up to 31st December, 1898, amounted to £54,453,325.	NOTE.—The total quantity o Kauri-gum exported since 18 amounted to 200,476 To valued at £9,080,627.

against 840,713 tons for 1897, an increased output of 66,320 tons. The coal imported from other countries was 115,427 tons, against 110,907 tons in 1897, an increase in the importation last year of 4,520 tons. The imports were 115,418 tons from New South Wales, 4 tons from Victoria, and 5 tons from the United States of America. The total export of coal was 65,189 tons, of which 56,332 tons were colonial produce, and 8,857 tons imported coal from other countries. Of the coal exported, 46,841 tons were for coaling direct steamers trading between the colony and the United Kingdom, and has been treated as coal consumed within the colony, these steamers trading wholly between New Zealand and Great Britain. Taking, therefore, the output from the mines and the coal imported, there is a total of 1,022,460 tons, of which 18,348 tons were exported, leaving the consumption within the colony last year 1,004,112 tons, as against 924,981 tons for 1897, an increased consumption of 79,131 tons.

The largest increase in the output last year was in the Westport district—namely, 41,770 tons. There was also an increased production from the mines in the Otago District of 24,047 tons, from the Waikato mines of 4,066 tons, from Kawakawa and Hikurangi of 3,883 tons, from the Mokau 911 tons, and from the West Wanganui Mine of 322 tons; but there was a decline in other places, the largest falling off being in the Greymouth district, 10,050 tons.

The quantities of coal produced in each district are as under:—

Name of District.	Output of Coal.		Increase or Decrease.	Approximate total Output of Coal up to the 31st December, 1898.
	1897.	1898.		
	Tons.	Tons.	Tons.	Tons.
Kawakawa and Hikurangi	53,449	57,332	+ 3,883	1,031,519
Whangarei, Kamo, Ngunguru, and Whauwhau	17,285	16,808	− 477	391,861
Waikato	66,125	70,191	+ 4,066	1,021,048
Mokau	3,148	4,059	+ 911	17,712
Pelorus	..	..	..	711
West Wanganui	908	1,230	+ 322	50,996
Westport	298,551	340,321	+41,770	2,983,304
Reefton	2,865	5,076	+ 2,211	75,748
Greymouth	128,676	118,626	−10,050	2,514,554
Malvern	13,710	13,347	− 363	355,032
Timaru	..	..	..	10,657
Otago	212,292	233,003	+20,711	3,557,300
Southland	43,704	47,040	+ 3,336	473,204
Totals	840,713	907,033	+66,320 (Net)	12,483,646

The following table, constructed from "Laboratory Reports of the Geological Survey" (Sir J. Hector) gives the composition of samples of New Zealand coals freshly taken from the principal mines:—

Number.	Description.	Locality.	Analysis.				Evaporative Power.*	
			Fixed Carbon.	Hydro-carbon.	Water.	Ash.	1.	2.
1	Anthracite ..	Acheron, Canterbury ..	84·12	1·96	1·80	12·12	10·93	18·50
2	Bituminous ..	Coalbrookdale ..	74·83	20·50	1·16	3·51	9·70	16·45
3	" ..	"	70·00	22·15	2·52	5·33	9·10	15·40
4	" ..	Banbury	69·97	25·71	0·99	3·33	9·09	15·38
5	Altered brown coal	Malvern Hills ..	68·54	19·89	4·15	7·42	8·27	12·50
6	Bituminous ..	Tyneside	65·59	29·18	0·82	4·41	8·52	13·55
7	Glance coal ..	Rakaia Gorge ..	64·51	21·27	6·76	7·46	8·30	13·20
8	Bituminous ..	Wallsend	62·87	31·64	1·66	3·83	8·17	13·82
9	" ..	Grey River	62·37	29·44	1·99	6·20	8·01	13·22
10	Pitch coal ..	Kawakawa	61·16	28·00	2·51	8·33	7·95	12·55
11	Bituminous ..	Preservation Inlet ..	60·88	28·60	4·33	6·19	7·91	12·80
12	Pitch coal ..	Blackball, Grey River	60·20	29·97	8·01	1·82	7·82	12·20
13	Bituminous ..	Mokihinui	59·75	32·14	3·97	4·14	7·76	11·80
14	" ..	Coalpit Heath ..	58·81	38·98	1·02	1·19	7·64	12·96
15	" ..	Mokihinui	57·92	34·94	3·96	3·18	7·50	12·75
16	" ..	Brunner Mine ..	56·62	35·68	1·59	6·11	7·36	12·46
17	" ..	" ..	56·21	37·73	1·50	4·56	7·30	12·36
18	" ..	Westport	56·01	37·17	2·60	4·22	7·28	12·30
19	" ..	Mokihinui	55·59	38·86	3·16	2·39	7·20	12·22
20	" ..	Brunner	54·16	35·85	2·50	7·49	7·04	11·91
21	Altered brown coal	Malvern Hills ..	53·29	32·04	12·65	2·02	6·92	11·50
22	Bituminous ..	Wallsend	53·10	35·47	1·41	10·02	6·90	11·68
23	" ..	Otamataura Creek ..	52·89	36·63	2·19	8·29	6·90	11·70
24	" ..	Near Cape Farewell ..	51·37	38·72	4·38	5·53	6·31	11·60
25	Pitch coal ..	Kawakawa	50·15	42·63	4·18	3·04	6·50	11·80
26	Glance coal ..	Whangarei	50·11	38·68	8·01	3·20	6·50	11·75
27	Pitch coal ..	Kamo	50·01	37·69	9·61	2·69	6·50	11·17
28	Brown coal ..	Malvern Hills ..	49·99	35·42	11·79	2·80	6·49	10·90
29	"	Fernhill	49·95	36·95	12·00	1·10	6·49	10·99
30	" ..	Allandale	47·31	34·26	12·41	6·02	6·15	10·96
31	" ..	Kaitangata	46·48	33·48	14·66	5·38	6·04	10·22
32	" ..	Shag Point	46·21	32·65	16·02	5·12	6·00	10·16
33	" ..	Homebush	44·92	36·00	15·83	3·25	5·83	9·87
34	Pitch coal ..	Hikurangi, Whangarei	44·50	47·00	5·99	2·51	5·78	9·79
35	Brown coal ..	Hokonui	44·28	38·22	16·50	1·00	5·75	9·77
36	" ..	Kaitangata	44·11	38·32	15·44	2·13	5·74	9·96
37	" ..	Nightcaps	43·62	33·68	18·33	4·37	5.67	9·59
38	Pitch coal ..	Shag Point	43·19	30·05	15·82	10·94	5·61	9·52
39	Brown coal ..	Springfield	42·68	33·66	18·65	5·01	5·55	9·38
40	" ..	Orepuki	42·64	36·26	14·44	6·66	5·54	9·38
41	" ..	Kaitangata	38·29	32·43	17·50	11·78	4·87	8·32
42	" ..	Shag Point	35·76	30·86	13·22	20·16	4·64	7·85
43	" ..	Allandale	34·72	41·43	18·99	4·86	4·51	7·63
44	Pitch coal ..	Grey River	34·72	56·48	6·20	2·60	4·51	7·63

FOR COMPARISON.

Newcastle, N.S.W.	Best	58·33	34·17	1·83	5·67	7·50	12·82
"	Worst	53·84	26·66	3·33	16·67	6·90	11·72

* The second column headed "Evaporative Power" is obtained by the use of a multiple computed from the results of Professor Liversedge's experiments upon the coals of New South Wales. The multiple used for the first column is the one which has long been generally used for computing the evaporative power of coals; but, to prevent any unfair and prejudicial comparison of our coals with those of New South Wales, the second column is given.

As regards the quality of the coal, it cannot be surpassed. The late Sir John Coode, in his presidential address to the Institute of Civil Engineers, London, stated : "The bituminous coal found on the west coast of the Middle Island is declared by engineers to be fully equal, if not superior, to the best description from any part of the world."

The quantity of each class of coal produced in 1897 and 1898 was :—

Class of Coal.	Output of Coal.		Increase.	Approximate total Output of Coal up to the 31st December, 1898.
	1897.	1898.		
	Tons.	Tons.	Tons.	Tons.
Bituminous	504,764	538,477	33,713	6,684,926
Pitch	34,969	36,432	1,463	1,722,488
Brown	268,020	298,365	30,345	3,664,619
Lignite	32,960	33,759	799	411,613
Totals	840,713	907,033	66,320	12,483,646

It has been computed that to deliver coal at the pit-mouth costs in labour 6s. a ton. The number of men employed in all the coal-mines last year was 2,003, and the output of coal, 907,033 tons : the average earning per man would thus be £135 17s. per annum, or about £2 12s. 3d. per week.

OTHER METALS OR MINERALS.

Very little has been done in the colony to prospect and develop mines other than for gold and silver. The only exports last year of metalliferous products, excluding gold and silver, were 217 tons of manganese-ore, 1,765 tons of sulphur, and small parcels of other minerals, representing an aggregate value of £5,565.

KAURI-GUM.

The quantity of kauri-gum exported last year was 9,905 tons, as against 6,641 tons for 1897. Last year's produce (£586,767) gave an average value of about £59 4s. 9d. per ton, while for 1897 the average was £59 18s. 8d. per ton.

SECTION XVIII.—AGRICULTURE.

UNTIL 1895 the agricultural statistics were collected and compiled by the Registrar-General, under authority of "The Census Act, 1877," annually in the month of February, except in census years, when the collection was made with the enumeration of the people. Under this Act statistics of the acreage in grass and in all kinds of cultivation were taken; and, at the same time, the estimated yields of all the principal crops were obtained from the farmers themselves.

By the Agricultural and Pastoral Statistics Act, passed in 1895, the duty of collecting the returns devolved upon the Department of Agriculture. The plan adopted under the Act of 1895 is similar to that used in the United Kingdom, the account of land laid down in crop being made up much earlier than formerly, while estimates of produce are made after the results of threshing are known.

Statistics of the land in cultivation were accordingly collected in November, 1898, and an interim return of the compiled results was published in detail in the *New Zealand Gazette* of the 26th January, 1899, while the corrected acreages under each description of crop were made public on the 13th April following. A summary of the particulars then given is shown in the accompanying tables, with the finally corrected statements of yield of the principal crops; but, in comparing these figures with the results obtained in former years, it must be remembered that, under the new Act, statistics of the acreage and crops of land held and cultivated by Maoris are included; whereas previously information about the farming carried on by Maoris was obtained only when a census of the Native race was taken.

The weather during harvest in the North Island and in the northern part of the Middle Island was wet; consequently a considerable quantity of grain was damaged both in stook and stack. In the southern portion of the Middle Island, the chief grain-growing district, however, the weather was fine, and the crops were saved in good condition.

Full remarks on the progress of agriculture in New Zealand, in respect of all its features in detail, are supplied by Mr. Murphy, of Christchurch, Secretary of the Agricultural and Pastoral Society, in the special article devoted to the subject which appears as the first of Section II. in Part III.

ACREAGE AND ACTUAL YIELD IN PRINCIPAL CORN-CROPS, 1899.

District.	WHEAT.			OATS.			BARLEY.			RYE.			MAIZE.		
	Acres.	Yield per Acre, in Bushels.	Total Bushels.	Acres.	Yield per Acre, in Bushels.	Total Bushels.	Acres.	Yield per Acre, in Bushels.	Total Bushels.	Acres	Yield per Acre, in Bushels.	Total Bushels.	Acres.	Yield per Acre, in Bushels.	Total Bushels.
Auckland	12,261	20·31	249,046	8,882	30·81	273,661	2,123	27·55	58,497	85	12·50	1,062	17,143	44·64	765,263
Taranaki	3,100	28·59	88,647	6,379	37·99	242,368	1,107	38·33	42,435	55	12·00	660	110	20·00	2,200
Hawke's Bay ...	1,617	27·83	45,002	7,057	33·85	238,922	3,002	37·77	113,388	262	30·00	7,860	1,050	39·92	41,916
Wellington ...	18,668	29·48	550,411	22,603	33·94	767,327	926	36·19	33,520	239	18·58	4,440	200	20·00	4,000
Marlborough ...	7,783	27·80	216,367	3,569	32·83	117,170	5,622	29·44	165,511	63	20·50	1,291	3*	...	...
Nelson	6,001	30·84	185,117	5,655	36·60	207,018	4,228	35·10	148,435	43	21·75	935	29*	...	...
Westland	...	...	...	...	...	...	...	...	...	6*	...	...	...	...	...
Canterbury ...	249,852	33·65	8,409,166	142,748	41·26	5,890,132	14,600	46·29	675,931	473	21·91	10,363	4*	...	...
Otago	99,752	33·37	3,329,660	220,427	39·80	8,774,770	14,063	31·30	440,191	1,720	22·90	39,388	...	...	...
Totals	399,034	32·76	13,073,416	417,320	39·56	16,511,388	45,671	36·73	1,677,908	2,946	22·44	65,999	18,539	43·96 †	813,379 †

* Not included in calculating the average yield for the colony. † Estimate only.

NUMBER OF ACRES UNDER CULTIVATION IN EACH PROVINCIAL DISTRICT, 1899.

Provincial Districts	In Grass or Clover, sown after land ploughed.	In Grass, surface-sown: land not ploughed.	In Hay, included in either or both of the previous Columns.	In Bare Fallow.	In Grain-crops (for threshing only).	In Green and other Crops.	In Garden.	In Orchard or Vineyard.	Total in Grass, Crop, and Fallow.	In Plantations of Forest-trees.	Tussock or Native Grass, and unimproved.
Auckland ..	481,688	1,196,427	14,729	8,812	40,691	89,282	3,215	9,570	1,829,685	9,857	3,200,928
Taranaki ..	126,901	545,455	6,209	641	11,034	14,631	978	740	700,380	1,119	327,740
Hawke's Bay ..	383,636	1,223,344	10,690	1,877	13,219	28,305	1,108	1,257	1,652,746	4,000	1,661,579
Wellington ..	234,877	2,072,943	13,931	833	43,695	61,995	2,348	3,816	2,420,507	3,198	1,278,083
Marlborough ..	89,696	201,647	3,679	557	18,120	13,567	220	408	324,215	942	1,888,103
Nelson ..	97,459	271,002	3,567	361	16,517	29,490	527	1,841	417,197	1,599	1,480,949
Westland ..	13,684	33,647	868	4	7	1,899	77	234	49,552	76	523,723
Canterbury ..	1,312,494	342,317	15,113	8,602	413,109	286,572	4,583	2,752	2,370,429	21,736	3,919,326
Otago ..	1,325,425	292,097	6,834	29,477	336,076	270,494	3,874	2,365	2,259,808	4,689	8,084,122
Totals ..	4,065,860	6,178,879	75,620	51,164	892,468	796,235	16,930*	22,983†	12,024,519	47,216	22,314,553

* 13,492 acres private garden; 3,438 acres market garden. † 22,626 acres orchard; 357 acres vineyard.

ACREAGE UNDER SOWN GRASSES, AND CULTIVATION GENERALLY, FOR EACH COUNTY, AS ON THE 15TH NOVEMBER, 1898.

Counties.	In Sown Grasses, after having been ploughed.	In Sown Grasses, not previously ploughed.	Land broken up but not under Crop.	Total under Crop.	In Garden.	In Orchard.	Plantations of Forest Trees.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Mongonui	5,713	14,433	246	1,326	60	148	3
Whangaroa ..	1,290	4,174	4	169	19	75	..
Hokianga	444	16,190	5	865	140	204	44
Bay of Islands ..	4,763	29,704	64	1,260	95	231	14
Hobson	812	22,822	380	848	133	195	91
Whangarei ..	18,844	70,552	123	2,745	80	959	110
Otamatea	4,385	53,082	159	765	53	220	22
Rodney	9,017	64,333	320	1,300	146	934	164
Waitemata ..	17,781	28,412	1,144	2,149	297	1,822	135
Eden	17,161	2,675	126	1,983	1,128	547	317
Manukau	92,219	82,740	2,090	24,171	312	1,345	929
Coromandel ..	2,815	6,126	78	225	52	105	5
Thames	2,575	5,033	134	773	33	212	5
Ohinemuri ..	5,051	6,499	38	1,537	40	72	80
Piako	113,768	49,077	1,888	20,908	59	252	1,064
Waikato	41,952	31,056	1,214	11,634	59	463	5,290
Waipa	52,564	13,445	201	14,389	112	583	916
Raglan	11,431	69,876	137	3,210	48	170	63
Kawhia	6,801	33,988	..	2,265	8	30	10
West Taupo ..	8,071	6,668	165	2,463	3	29	52
East Taupo ..	647	1,092	..	189	9	7	23
Rotorua	1,935	1,929	42	407	4	26	73
Tauranga	20,645	20,983	101	13,648	105	357	163
Whakatane ..	11,318	20,180	61	10,996	40	123	17
Waiapu	1,082	153,836	2	1,166	18	41	1
Cook	28,604	387,522	90	8,582	162	420	266
Wairoa	14,635	250,554	137	4,201	26	118	169
Hawke's Bay ..	168,362	383,395	1,729	20,923	530	721	1,673
Waipawa	108,856	347,717	10	11,955	446	313	1,513
Patangata	91,783	241,678	1	4,445	106	105	645
Taranaki	42,252	132,730	135	6,563	321	330	272
Hawera	38,851	149,803	500	9,895	460	136	365
Patea	36,699	99,205	6	6,260	138	165	469
Clifton	8,439	41,098	..	2,051	12	80	6
Stratford	660	122,619	..	896	47	29	7
Waitotara	22,178	71,164	..	5,573	151	239	179
Wanganui	14,447	155,148	37	4,634	102	282	289
Rangitikei ..	60,010	201,136	14	20,435	208	309	684
Oroua	10,420	159,951	8	14,203	326	757	257
Kiwitea	556	127,333	..	2,444	30	152	14
Pohangina ..	110	65,894	..	436	32	98	3
Manawatu ..	52,004	48,140	201	16,555	130	169	390
Horowhenua ..	1,520	99,884	7	3,446	207	292	76
Pahiatua	848	127,098	8	1,266	94	202	16

ACREAGE UNDER SOWN GRASSES, ETC.—*continued.*

Counties.	In Sown Grasses, after having been ploughed.	In Sown Grasses, not previously ploughed.	Land broken up but not under Crop.	Total under Crop.	In Garden.	In Orchard.	Plantations of Forest Trees.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Wairarapa North ..	23,384	523,159	194	14,087	354	441	460
Wairarapa South ..	42,795	389,364	352	20,430	188	492	709
Hutt	6,605	154,672	12	2,181	526	383	121
Sounds	6,682	84,582	56	4,461	67	218	40
Marlborough ..	48,750	64,307	398	23,588	132	179	819
Kaikoura	34,264	52,758	108	3,638	21	16	83
Collingwood ..	2,750	30,314	45	1,225	9	234	8
Waimea	25,669	130,470	290	22,722	299	1,401	215
Buller	715	6,614	..	171	47	107	..
Inangahua ..	4,120	16,970	26	1,030	13	68	1
Amuri	47,301	77,027	..	8,702	54	18	1,048
Cheviot	16,904	9,607	..	12,157	105	18	327
Westland	8,821	17,683	..	1,206	25	108	6
Grey	4,868	15,964	4	700	52	126	70
Ashley	223,736	108,829	1,060	101,969	693	414	1,896
Selwyn	260,774	24,850	1,369	160,872	1,796	1,111	7,140
Akaroa	27,592	143,467	15	6,319	152	800	877
Ashburton ..	358,472	15,194	1,355	198,916	771	307	8,105
Geraldine	120,271	6,706	1,605	78,151	318	242	1,678
Levels	75,317	4,978	784	50,638	408	219	1,046
Waimate	198,882	29,579	2,126	88,301	367	129	722
Mackenzie ..	52,450	8,714	288	19,520	83	30	772
Waitaki	191,888	15,059	3,507	89,771	488	235	1,266
Waihemo	29,799	6,249	425	18,852	106	57	102
Waikouaiti ..	15,318	51,190	114	8,055	118	116	69
Peninsula	2,098	18,660	2	1,864	146	75	90
Taieri	71,104	18,167	358	35,006	698	328	512
Bruce	88,416	17,757	592	46,142	194	80	291
Clutha	167,522	26,268	1,928	60,217	291	143	369
Tuapeka	95,780	17,429	2,087	39,908	282	299	232
Maniototo	32,621	1,837	1,249	23,269	220	14	215
Vincent	14,950	5,057	2,474	13,097	121	202	60
Lake	9,179	4,838	4,340	13,326	103	78	193
Southland	466,359	60,207	10,730	199,004	869	631	979
Wallace and Fiord ..	140,362	54,091	1,671	63,047	223	108	311
Stewart Island ..	34	288	..	12	15	4	..
Total	4,065,860	6,178,879	51,164	1,688,703	16,930	22,983	47,216

NUMBER OF ACRES IN GRASS, UNDER EACH CLASS OF CROP, AND IN BARE FALLOW, 1888 TO 1899.

Year.	In Grass or Clover, sown after land ploughed.	In Grass or Clover, surface-sown: land not ploughed.	In Hay, included in either or both of the previous Columns.	In Bare Fallow.	In Grain-crops (for threshing only).	In Green and other Crops.	In Garden.	In Orchard or Vineyard.	Total in Grass, Crop, Fallow, Garden, and Orchard.	In Plantations of Forest-trees.
1888	2,884,007	3,053,052	67,812	154,266	738,603	454,824	8,608	16,329	7,309,689	28,565
1889	2,941,888	3,337,423	50,656	142,747	793,866	454,243	8,561	15,246	7,693,974	33,938
1890	3,027,912	3,497,137	45,889	149,979	826,505	513,893	8,568	15,771	8,039,765	28,928
1891	3,250,543	3,715,675	44,045	210,509	703,329	582,439	9,810	17,047	8,489,352	35,310
1892	3,327,755	4,076,126	46,652	140,454	769,778	579,112	9,608	19,627	8,922,460	38,723
1893	3,611,393	4,650,652	61,811	154,254	753,091	544,355	9,763	20,085	9,743,593	40,401
1894	3,865,348	4,833,549	60,740	142,342	669,850	551,962	9,951	21,109	10,094,111	39,826
1895	3,908,581	4,921,136	56,614	140,494	560,179	597,686	10,263	21,401	10,159,740	55,386
1896	4,254,983	5,030,247	96,818	58,039	674,850	680,750	17,749	19,362	10,735,980	43,246
1897	4,308,720	5,733,138	109,466	57,158	688,297	762,762	16,924	22,291	11,589,290	47,630
1898	4,123,304	5,743,245	67,865	60,792	727,038	790,184	16,177	22,387	11,483,127	52,546
1899	4,065,860	6,178,879	75,620	51,164	892,468	796,235	16,930	22,983	12,024,519	47,216

The extent of land in cultivation (including sown grasses and land broken up but not under crop) amounted to 12,024,519 acres. Of this area, land under artificial grasses comprised 85·20 per cent.; land under grain-crops, 7·42 per cent.; land under root and green crops, 6·62 per cent.; land in garden and orchard, 0·33 per cent.; and land in fallow, 0·43 per cent.

Wheat.

The wheat harvest of 1899 showed an average yield of 32·76 bushels per acre, the crop realised being 13,073,416 bushels, against 5,670,017 in 1898, 5,926,523 bushels in 1897, 6,843,768 bushels in 1896, 3,613,037 bushels in 1895, 4,891,695 bushels in 1894, 8,378,217 bushels in 1893, and 10,257,738 bushels in 1892.

The quantity of wheat of last season's harvest held by farmers in November, 1898, as shown by the gazetted figures, was 1,622,037 bushels, an amount little more than sufficient to meet demands for consumption in the colony until the arrival of the new wheat upon the market. No doubt stocks of flour and grain are held by merchants and millers. The total amount of wheat exported during the year 1898 was only 10,090 bushels, while the imports were as high as 60,860 bushels, showing that New Zealand had not grown as much as was required for consumption by her own people.

The imports of flour during 1898 were 10,633 centals (531 tons), and the exports 662 tons.

The area under wheat for threshing increased however from 315,801 acres in 1898 to 399,034 acres in 1899; and to this increase of 83,233 acres, all the provincial districts contributed. In addition to the area cut for threshing, 1,126 acres were cut for chaff, and 36 acres for ensilage, while 193 acres were fed down with stock, so that the total area sown in wheat was 400,389 acres.

Of the 399,034 acres in wheat (for threshing) this year, no less than 249,852 acres were in Canterbury, and 99,752 acres in Otago.

The area under wheat for grain, the estimated gross produce in bushels, and the average yield per acre for each of the last ten years were:—

Year.	Land under Wheat.	Estimated Gross Produce.	Average Yield per Acre.
	Acres.	Bushels.	Bushels.
1890	335,861	8,448,506	25·15
1891	301,460	5,723,610	18·99
1892	402,273	10,257,738	25·50
1893	381,245	8,378,217	21·98
1894	242,737	4,891,695	20·15
1895	148,575	3,613,037	24·32
1896	245,441	6,843,768	27·88
1897	258,608	5,926,523	22·92
1898	315,801	5,670,017	17·95
1899	399,034	13,073,416	32·76

The following gives the area in wheat and the estimated produce, for the Australian Colonies, for the season of 1898 :—

Colony.	Wheat-crop.		
	Acres.	Bushels.	Bushels per Acre.
Queensland	59,875	1,009,293	16·86
New South Wales	993,350	10,560,111	10·60
Victoria	1,657,450	10,580,217	6·38
South Australia	1,522,668	4,014,852	2·64
Western Australia	38,705	408,595	10·56
Tasmania	85,905	1,668,341	19·42

Consumption of Wheat.

The yearly consumption of wheat per head of population in New Zealand, as previously stated, has been estimated at 6 bushels.

The difficulty of correctly computing the consumption of bread-stuffs is shown by the great differences in the estimates arrived at.

The average quantity required per head of the population (exclusive of that used for seed) has been calculated at 6·4 bushels for New South Wales, and 4½ to 5 bushels for Victoria, by statisticians in those colonies.

The average consumption of wheaten bread-stuffs in New Zealand thus appears to be somewhat higher than in Victoria.

The following is the average annual consumption of wheat per inhabitant in some of the principal countries of the world :—

United Kingdom	5·6 bushels.
Canada	6·6 „
France	8·1 „
Germany	3·0 „
Russia	2·1 „
Italy	5·4 „
United States	4·5 „

The English consumption during the last twenty-five years appears to have ranged from 5½ to 6 bushels per head of population.

Wheat-crop of the World.

In the next table the wheat crop of the world for the five years 1893 to 1897 is shown, and from this it will be seen that the importance of Australasia in the wheat market of the world is not great: out of a total production of about 2,245 million bushels in 1897, only thirty-four million bushels, or 1·5 per cent., were grown in the Australasian Colonies :—

WHEAT-CROP OF THE WORLD FOR THE YEARS 1893 TO 1897 INCLUSIVE.

Country.	1893.	1894.	1895.	1896.	1897.
	1,000 Bushels.	1,000 Bushels.	1,000 Bushels.	1,000 Bushels.	1,000 Bushels.
Europe—					
Russia and Poland ..	359,878	383,862	333,479	343,877	292,000
France	277,980	343,113	348,280	335,881	248,000
Hungary	149,069	152,305	152,345	143,949	103,000
Italy	130,855	117,958	111,960	131,953	96,000
Germany	109,562	110,359	102,363	103,964	100,000
Spain	83,968	103,964	103,964	79,972	96,000
Roumania ..	58,379	42,386	65,978	68,975	40,000
United Kingdom ..	50,383	59,176	37,986	57,978	54,000
Bulgaria	33,986	35,988	45,982	49,982	32,000
Caucasia	65,177	59,980	63,976	43,984	28,000
Turkey	31,988	27,988	35,988	39,984	28,000
Austria	42,396	47,183	40,385	35,988	34,000
Belgium	16,793	18,394	18,394	19,992	20,000
Servia	8,797	7,996	9,998	13,994	6,800
Greece	7,996	7,199	5,998	5,998	5,200
Holland	5,598	4,797	5,197	5,998	5,200
Switzerland ..	4,400	5,197	4,797	4,797	4,000
Denmark	4,477	4,000	4,400	4,000	4,000
Norway-Sweden ..	3,600	3,600	4,400	4,000	4,000
Portugal	5,598	6,799	5,598	4,000	6,000
Totals ..	1,450,375	1,542,244	1,501,468	1,499,266	1,205,200
America—					
United States ..	455,838	511,818	495,822	447,842	560,000
Canada	47,984	43,984	53,982	33,986	56,000
Mexico	11,195	11,996	11,996	9,998	12,000
Argentine	82,371	59,980	45,982	31,988	48,000
Chili	17,994	13,193	18,594	11,996	16,000
Uruguay	6,398	7,996	9,998	5,998	8,000
Totals ..	621,780	648,967	631,374	541,808	700,000
Asia—					
India	267,104	252,710	255,108	204,729	192,000
Asia Minor ..	31,988	27,988	31,988	35,988	48,000
Persia	15,992	17,994	19,992	19,992	20,000
Syria	11,996	9,998	9,998	11,996	12,000
Totals ..	327,080	308,690	317,086	272,705	272,000
Africa—					
Algeria	14,795	19,992	17,994	19,992	16,000
Egypt	9,998	9,998	9,998	7,996	8,000
Tunis	3,400	5,998	5,598	5,197	4,800
Cape Colony ..	4,397	4,797	4,797	4,397	4,800
Totals ..	32,590	40,785	38,387	37,582	33,600

WHEAT-CROP OF THE WORLD—*continued.*

Country.	1893.	1894.	1895.	1896.	1897.
	1,000 Bushels.	1,000 Bushels.	1,000 Bushels.	1,000 Bushels.	1,000 Bushels.
Australasia—					
New South Wales ..	6,503	7,041	5,195	8,854	10,560
Victoria	15,255	11,446	5,669	7,076	10,580
Queensland ..	413	545	124	601	1,009
South Australia ..	13,618	7,781	5,929	2,804	4,015
Western Australia ..	520	170	188	244	409
Tasmania	834	872	1,165	1,286	1,668
New Zealand ..	4,892	3,613	6,844	5,927	5,670
Totals ..	42,035	31,468	25,114	26,792	33,911
Grand Totals ..	2,473,860	2,572,154	2,513,429	2,378,153	2,244,711

Oats.

The extent of land in oats grown for grain in 1899 was 417,320 acres, against 354,819 acres in the preceding year, an increase of 62,501 acres. The Provincial Districts of Otago (220,427 acres) and Canterbury (142,748 acres) account for 363,175 acres of the total area, Wellington taking third place with 22,603 acres. The breadth of land in oats for chaffing, ensilage, or feeding down with stock was 214,608 acres, a decrease of 10,162 acres on the figures for 1898.

The average yield per acre was, in 1898, 27·44 bushels, and in 1899, 39·56, the quantity of produce increasing from 9,738,391 bushels to 16,511,388 bushels.

The oat-crop for 1898 in the Australian Colonies was as follows:—

	Acres.	Bushels.	Average per Acre.
Queensland	1,834	31,496	17·17
New South Wales ..	28,605	543,946	19·00
Victoria	294,183	4,809,479	16·35
South Australia ..	31,398	204,444	6·51
Western Australia ..	1,678	29,266	17·44
Tasmania	38,166	1,102,285	28·88

Maize.

This is a very important crop. In 1899 there were 18,539 acres sown for grain, the estimated yield being 813,379 bushels of corn, an average of nearly 44 bushels per acre. Maize is grown only in the North Island, with the exception of a few acres in Nelson and Canterbury. The Provincial District of Auckland had 17,143 acres; Hawke's Bay, 1,050 acres; Taranaki, 110 acres; and Wellington, 200 acres, in 1899. As considerable interest is taken in this crop, the group of counties where it is grown most extensively is stated, viz.: Tauranga, Whakatane, Waiapu, Cook, Wairoa, and Hawke's Bay. It is found also in Mongonui and Manukau.

Barley.

Under barley, 45,671 acres were returned in 1899, the estimated crop being 1,677,908 bushels, an average yield per acre of 36·73 bushels. In 1898 the area under barley was 29,920 acres, and the yield 709,874 bushels, the crop for last year being more than twice as great.

Rye.

There were 2,946 acres in rye, yielding 65,999 bushels, or at the rate of 22·44 bushels per acre, against 1,915 acres and 39,202 bushels, the rate being 20·47 bushels per acre, in 1897–98.

Peas and Beans.

The area under peas in the season 1899 was 6,334 acres, yielding 178,420 bushels, or an average of 28·17 bushels per acre, against 6,752 acres and 122,447 bushels, or 18·13 bushels per acre, in the previous year.

Under beans there were 2,624 acres, giving a return of 96,574 bushels, the average being 37·31 bushels per acre, against 2,994 acres and 58,162 bushels (19·42 bushels per acre) in 1898.

Potatoes.

The area under potatoes was 38,604 acres in 1899, yielding the excellent return of 298,561 tons, or a rate of 7·73 tons per acres, against 36,402 acres in 1898, and 180,333 tons (or 4·95 tons per acre), an increase of 2,202 acres and 118,228 tons.

A comparison of the gross yield of potatoes with the amount exported in each of the twelve years, 1883–94, showed that for such period an average of 597 lb. per head of population was retained in the colony. Allowing for waste, pig-feed, and seed, the average amount retained for human consumption was found to be 449 lb. a head. The surplus crop of 1898–99 available for export might possibly amount to ninety thousand tons.

Turnips.

Turnips and rape form a most important crop in a sheep-breeding country such as New Zealand, and in 1892 the area of land under this crop amounted to 422,359 acres. The returns for 1895 gave only 385,788 acres, but for the present year 519,945 acres were set down as under this crop, and there were in addition 10,526 acres in mangolds, beet, and carrots.

The cost of growing turnips sown broadcast and in drills may be: Broadcast—Ploughing, 5s. 6d. per acre; harrowing, 3s. per acre; rolling, 1s. per acre; seed and sowing, 1s. 6d. per acre: total, 11s. per acre. Drill—Ploughing, 5s. 6d.; grubbing, 3s.; harrowing, 3s.; rolling, 1s.; drilling, 3s. 6d.; hand-hoeing, 10s.; horse-hoeing, 5s.; seed and sowing, 2s. 6d.; manure, 10s. to 15s.: total, £2 3s. 6d. to £2 8s. 6d. per acre.

Hops.

There were 947 acres under hops in 1899, as against 845 acres last year. No account of the produce for the last four years was taken, but in 1895 the yield was 7,556 cwt. In 1895 the total quantity used by the breweries in the colony amounted to 3,793 cwt. Of the land under hops in 1899, 798 acres were in the Waimea County, and 124 in Collingwood, both in the Provincial District of Nelson. The import of hops in 1898 amounted to 1,663 cwt., and exceeded the exports by 718 cwt.

Tobacco.

The growing of tobacco does not progress in New Zealand. In 1889, 34 acres were being cultivated; in 1890, 25 acres; in 1891, 16 acres; in 1892, 6 acres; in 1893, 4 acres; in 1894, 4 acres; and in 1895, 5 acres, producing 1,599 lb. of dried leaf. Statistics of this crop have not been taken since 1895.

Gardens and Orchards.

The extent of land in garden was 16,930 acres, of which 13,492 acres were private gardens, and 3,438 acres market gardens. In plantations of forest-trees there were 47,216 acres.

There were 22,626 acres in orchard in 1899, an increase of 503 acres on the area so returned in the previous year, and 357 acres were returned as "vineyard." The fruit-crop of the colony is supplemented by a considerable import from the Australian Colonies and Fiji.

Sown Grasses and Seeds.

New Zealand is essentially suited for grazing purposes. Wherever there is light and moisture, English grasses thrive when the natural bush and fern are cleared off. In fact, the white clover gradually overcomes the fern; and, from the mildness of the winter season, there are few places where there is not some growth, even in the coldest months of the year. In all parts of the colony stock live, although in varying condition, without other food than such as they can pick up. Sown grass land, as might be expected, heads the list of cultivations.

At the beginning of the year 1899 there were 10,244,739 acres under artificial grasses. Of these, 4,065,860 acres had been previously ploughed, presumably under grain or other crops, while 6,178,879 acres had not been ploughed. Much of the latter area was bush- or forest-land, sown down in grass after the timber had been wholly or partially burnt off.

The area under ryegrass for seed in the season of 1899 was 66,295 acres, yielding 1,657,482 bushels of 20 lbs., or a rate of 25·01 bushels per acre, against 35,167 acres and 749,603 bushels, an average of 21·31 bushels per acre, in 1897–98.

In cocksfoot there were 46,275 acres, which yielded 6,943,039 lb., or an average of 150 lb. per acre, against 58,640 acres and 8,873,723 lb. (a rate of 151 lb. per acre) in the previous year.

Seeds for sowing pasture lands are used much as in Great Britain, the following being a common mixture: Perennial ryegrass, 25 lb. to 30 lb. per acre; cocksfoot, 2 lb.; alsike, 2 lb.; timothy, 3 lb.; cowgrass, 2 lb.; red clover, 2 lb.; white clover, 2 lb.; rape, 1 lb.: total, 39 lb. to 44 lb. per acre. Pastures are renewed at intervals of from four to eight years, according to the nature of the land.

The following shows the acreage in sown grasses in the Australasian Colonies in 1898:—

	Acres.
Queensland	15,643
New South Wales	325,750
Victoria	115,738
South Australia	20,083
Western Australia	3,317
Tasmania	226,095
New Zealand	9,866,549

It will be observed that the acreage of land under sown grasses was nearly fourteen times as great in New Zealand as in the whole of Australia and Tasmania. When compared in size with the colonies of Australia, New Zealand is not large—about one-thirtieth of their total area—but in respect of grazing capabilities the relative importance of this country is much greater. Australia is generally unsuitable, owing to conditions of climate, for the growth of English grasses, and the amount of feed produced by the natural grasses throughout the year is very much less per acre than is obtained from the sown grass lands in New Zealand; indeed, it may be said that the average productiveness of grass-land is about nine times as great here as in Australia, or that land in this colony covered with English grasses may be considered equal, for grazing purposes, to an area of Australian land about nine times as great.

In addition to the artificially-sown pastures, the returns for 1899 show that 22,314,553 acres of unimproved land, including that in tussock or native grass, belonged to the occupied holdings, and were available for stock-feeding by the sheep-farmers and cattle-farmers of the colony.

THE DAIRY INDUSTRY.

In respect of the present condition of the dairy industry Mr. Ruddick remarks:—

> The tendency seems to be in the direction of building up large central butter factories, with contributing skimming stations, situated at convenient points in the surrounding country. Already some of the New Zealand factories are large institutions, having a daily output of from one to three tons of butter. It can be said also that the best of these factories are as well built and equipped for the manufacture of fine butter as those to be found in any other country. Such a system, where large quantities of butter are made under the direction of one man, tends towards uniformity in the quality of the product. Large factories are more apt to be well equipped than very small ones, and the volume of

business done enables the company or proprietors to pay sufficient salary to secure picked men for managers. The fact that these large factories do exist, where a fair salary may be earned, is an inducement for superior men to follow the work. It is one of the hopeful signs for the future of New Zealand dairying that the factory managers are, as a whole, a very excellent class of men.

Government Aid to the Dairy Industry.

The Department of Agriculture assists the dairy industry mainly through the "dairying-service" branch. At the head of this branch is the Dairy Commissioner, who is assisted by two dairy instructors and five dairy produce graders. Meetings are addressed on dairying topics, and practical instructions are given at the factories to butter- and cheese-makers, as well as advice to the directors of dairy companies. A large amount of correspondence is attended to, which includes a wide range of technical subjects relating to the manufacture of butter and cheese, the testing of milk, and the organization and equipment of factories. Information on special subjects is disseminated by means of leaflets and pamphlets circulated free from time to time, as occasion may arise.

Grading of Dairy Produce.

Since the 31st March of the current year, all butter and cheese intended for export must be sent to one of the Government cool stores to be graded. Butter which is to be sent to Great Britain is frozen after being graded, and given free storage for one month, or until the leaving of the first steamer having available space. Butter for Australian markets is held in ordinary storage only, as the ships which carry it have no refrigerated space. It is stored free for one week. Cheese is held in cool storage under the same conditions as apply to butter, according to the market for which it is intended. The department also pays the cost of handling in and out of the stores.

Reports are given by the grader to the manufacturer of the butter or cheese, showing in detail the result of his examination of each parcel. These reports are becoming a recognised commercial document, and are often attached to bills of lading. Contracts are based on them, and thus they facilitate business as well as protect the local shipper.

Dairy Factories.

Districts.	Butter Factories.	Cheese Factories.	Butter and Cheese Factories combined.	Skimming Stations.
Auckland	10	11	..	30
Taranaki	77	2	12	44
Hawke's Bay	5	1	1	3
Wellington	15	11	..	33
Marlborough	1	2	..	..
Nelson	5	..	1	..
Westland	3	..	..	..
Canterbury	5	9	..	18
Otago	11	38	2	21
Tota	132	74	16	149

SECTION XIX.—CROWN LANDS.

A SUMMARY of the transactions during the year ended 31st March, 1899, will be found in the following table, which shows under all descriptions of tenure the number of selectors and the area selected:—

Nature and Tenure of Lands selected during the Year ended the 31st March, 1899.	Selectors.	Area. A.	R.	P.	Number of Purchasers or Selectors.	Area. A.	R.	P.
Town lands sold for cash	249	135	1	25	528	36,188	3	23
Suburban lands sold for cash ...	97	962	3	38				
Rural lands sold for cash	182	35,090	2	0				
Deferred payments					1	13	0	0
Perpetual lease					1	640	0	0
Occupation with right of purchase					458	109,949	3	30
Lease in perpetuity					362	99,269	0	3
Agricultural lease					2	114	1	11
Village settlement, cash					21	29	3	6
„ occupation with right of purchase ...					3	2	0	0
„ lease in perpetuity					104	2,100	1	2
Village-homestead special settlement					12	133	2	36
Special-settlement associations					5	607	1	10
Improved-farm special settlement (lease in perpetuity and occupation with right of purchase)					64	4,822	3	24
Occupation leases, Mining Act					31	1,448	3	1
Small-grazing-runs					21	48,809	3	17
Pastoral runs					227	760,156	1	1
Thermal springs, Rotorua					29	87	2	28
Miscellaneous leases and licenses					304	201,474	0	8
Cheviot Estate—								
Cash lands					6	1,210	3	14
Miscellaneous					6	196	0	0
Land for Settlements Acts—								
Lease in perpetuity					313	60,152	3	29
Lease in perpetuity, village					2	15	0	2
Small grazing-runs					19	28,821	3	19
Miscellaneous					23	1,229	1	1
Totals					2,542	1,357,466	2	25

Particulars of the number of Crown tenants at present holding lands under the several tenures, together with the yearly rental payable, are given in the next statement.

STATEMENT showing the TOTAL NUMBER OF CROWN TENANTS, with Area selected or held, and the Yearly Rent payable, as on the 31st March, 1899.

Tenures.	Number of Tenants.	Area held by such Tenants.			Yearly Rental or Instalment payable.		
		A.	R.	P.	£	s.	d.
Deferred payment	1,119	160,939	3	13	11,561	12	8
Perpetual lease	1,735	440,088	2	27	17,098	3	9
Occupation with right of purchase	2,281	504,829	2	17	20,409	14	5
Lease in perpetuity	2,490	731,211	1	38	24,459	11	8
Agricultural lease	27	1,262	2	33	33	7	3
Homestead	23	2,427	3	10	...		
Mining Districts Land Occupation Act	165	7,957	3	37	308	8	11
Village settlements—							
Deferred payment	67	1,085	3	23	249	10	1
Perpetual lease	214	3,762	3	8	561	15	0
Occupation with right of purchase	38	28	2	20	12	10	8
Lease in perpetuity	729	12,044	2	23	1,385	11	9
Village-homestead special settlements—							
Perpetual lease	569	12,956	1	32	1,878	9	0
Lease in perpetuity	100	4,152	1	18	396	9	2
Special settlements—							
Deferred-payment associations	72	7,045	3	37	405	1	2
Perpetual lease	25	2,207	0	11	151	1	10
Lease in perpetuity	704	131,299	0	18	6,801	15	5
Improved-farm special settlements—	513	50,226	1	31	2,284	3	4
Small grazing-runs	536	1,020,188	0	28	22,913	17	8
Pastoral runs	923	11,111,910	1	5	74,050	0	1
Miscellaneous leases	1,727	371,757	3	35	7,888	1	0
Totals	14,057	14,577,383	3	24	192,849	4	10
CHEVIOT ESTATE—							
Lease in perpetuity	106	23,903	0	33	6,426	2	8
Village-homestead special settlement	76	2,480	1	0	874	0	4
Grazing-farms	41	45,691	0	9	6,587	14	8
Pastoral runs	2	2,102	0	0	262	3	8
Miscellaneous	63	1,668	2	0	247	13	1
LAND FOR SETTLEMENTS ACTS—							
Lease in perpetuity	1,224	173,457	0	12	51,474	16	9
Lease in perpetuity, village	37	415	2	32	319	5	10
Special-settlement associations	11	2,114	1	9	162	7	8
Small grazing-runs	25	41,929	3	10	5,422	16	6
Miscellaneous	62	1,797	2	1	274	6	0
THERMAL-SPRINGS (ROTORUA)	215	5,614	0	26	1,452	18	0
Grand totals	15,919	14,878,557	1	36	266,353	10	0

The decennial tables I. and II. exhibit the acreage of land *taken up for settlement*, and the number of holdings under each description of tenure. The lands held under pastoral license and miscellaneous leases, such as for timber and flax-cutting, coal-mining, &c., *are not included* in these tables. Tables III. and IV. show the total acreage taken up year by year since 1890 in each land district, and the number of holdings grouped according to size, the areas varying from less than one acre in extent to 1,000 acres and over.

The forfeitures and surrenders in respect of the lands taken up for settlement (excluding, as already remarked, pastoral and miscellaneous leases) for the last three years were :—

1896-97	815 holdings	228,978 acres
1897-98	658 "	130,380 "
1898-99	567 "	180,957 "

Forfeited and surrendered lands are again thrown open for selection as soon as possible, and in the majority of cases are taken up again by fresh selectors within a short time.

A full description of the various tenures under which land is dealt with in the colony is given in the article entitled "The Land System of New Zealand," in Part III. of this book.

I.—COMPARATIVE STATEMENT SHOWING ACREAGE OF LANDS SELECTED UNDER SETTLEMENT CONDITIONS (EXCLUDING PASTORAL RUNS AND MISCELLANEOUS LEASES AND LICENSES) DURING EACH OF THE YEARS ENDED 31ST MARCH, 1890-99.

—	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Cash lands	46,922	100,014	40,501	36,327	34,999	38,695	26,575	28,485	22,525	37,400
Deferred payments	41,376	34,091	40,467	21,084	12,669	5,454	456	..	..	13
Perpetual lease and small areas	236,905	288,917	282,547	122,558	3,854	1,263	1,427	9,106	651	640
Occupation with right of purchase	..	..	..	54,271	108,133	75,478	84,968	59,648	81,414	109,950
Lease in perpetuity	..	..	..	55,320	179,993	91,799	122,350	104,927	117,938	159,415
Agricultural lease	53	551	90	194	365	45	36	13	258	114
Occupation lease under "The Mining Districts Land Occupation Act, 1894"	..	..	..	..	..	..	2,931	2,817	1,285	1,449
Village settlement—										
Cash	656	210	429	528	2	24	9	4	1	30
Deferred payment	782	370	182	391	..	..	..	..	..	..
Perpetual lease	1,729	954	893	2,636	..	..	..	..	..	..
Occupation with right of purchase ..	..	..	..	..	1	23	2	4	2	2
Lease in perpetuity	..	..	..	4	3,953	4,050	3,365	1,317	1,426	2,115
Village-homestead special settlement ..	270	350	2,213	494	2,550	2,743	793	360	42	134
Special-settlement associations	4,970	71	1,923*	157,381†	68,852†	†51,346	†44,237	28,084†	†442	†607
Homestead	1,751	945	1,010	38	..	..	..	..	..	..
Special-settlement improved farms ..	..	..	..	..	..	9,731	28,348	4,882	9,007	4,823
Small grazing-runs and grazing-farms ..	60,340	86,161	159,465	92,927	252,693	117,846	46,407	68,934	149,458	77,632
Totals	395,754	512,634	529,720	544,153	668,064	398,497	361,904	308,581	384,449	394,324

Perpetual lease. † Lease in perpetuity.

NOTE.—The forfeitures and surrenders for the last three of the years dealt with in the table were—for the year 1896-97, 228,978 acres; 1897-98, 130,380 acres; and for 1898-99, 180,957 acres. But it must not be supposed that these relate to the acreages taken up during the same years; on the contrary, forfeitures may have their origin in selections of long standing and various dates.

II.—COMPARATIVE STATEMENT SHOWING NUMBER OF SELECTORS OF LAND UNDER SETTLEMENT CONDITIONS (EXCLUDING PASTORAL RUNS AND MISCELLANEOUS LEASES AND LICENSES) DURING EACH OF THE YEARS ENDED 31ST MARCH, 1890–99.

—	1889–90.	1890–1.	1891–2.	1892–3.	1893–4.	1894–5.	1895–6.	1896–7.	1897–8.	1898–9.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
For cash	543	573	493	552	497	392	476	388	272	534
Deferred payments	304	258	223	169	96	47	6	..	..	1
Perpetual lease and small areas	756	788	824	385	17	3	7	19	2	1
Occupation with right of purchase	..	..	..	161	461	398	431	277	380	458
Lease in perpetuity	..	..	..	126	612	372	696	659	599	675
Agricultural lease	1	4	2	4	5	2	3	2	5	2
Occupation lease under "The Mining Districts Land Occupation Act, 1894"	..	..	..	..	..	..	69	48	23	31
Village settlement—										
Cash	159	87	88	75	3	23	16	4	2	21
Deferred payment	75	51	23	29	..	..	..	..	..	..
Perpetual lease	76	56	59	164	..	..	..	..	..	..
Occupation with right of purchase	..	..	..	..	5	30	3	4	2	3
Lease in perpetuity	..	..	..	2	203	232	193	102	92	106
Village-homestead special settlement	20	10	140	33	118	60	19	18	9	12
Special-settlement associations	46	2	13	838	290	262	238	142	5	5
Homestead	19	9	8	1	..	..	..	..	..	..
Improved-farm special settlement	..	..	..	..	..	107	315	45	77	64
Small grazing-runs and grazing-farms	35	43	80	39	142	60	32	27	71	40
Totals	2,034	1,881	1,953	2,578	2,454	1,988	2,504	1,735	1,539	1,953

NOTE.—The forfeitures and surrenders for the last three of the years dealt with in the table were—for the year 1896–97, 815 holdings; 1897–98, 658 holdings; 1898–99, 567 holdings. See note to previous table as to the origin of these failures.

III.—LANDS TAKEN UP UNDER SETTLEMENT CONDITIONS DURING EACH OF THE YEARS ENDED 31ST MARCH, 1891-99 (EXCLUSIVE OF PASTORAL RUNS AND MISCELLANEOUS LEASES AND LICENSES).*

Land District.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Auckland	95,510	105,120	115,454	134,992	99,313	67,831	49,522	56,295	90,160
Hawke's Bay	45,603	36,008	49,831	24,356	20,141	16,353	22,858	19,876	36,222
Taranaki	33,785	55,237	49,064	13,954	35,113	55,850	22,002	16,786	18,867
Wellington	108,053	82,311	156,297	84,871	49,586	79,478	63,801	48,909	63,746
Nelson	23,808	12,992	17,797	36,739	34,906	19,421	14,462	13,600	18,673
Marlborough	11,023	3,016	8,055	8,227	18,353	15,858	20,858	54,581	51,973
Canterbury	133,761	62,831	12,777	94,861	33,744	14,827	22,654	75,041	52,839
Westland	313	1,010	162	1,346	1,826	1,765	3,865	437	352
Otago	47,450	141,565	90,043	159,050	80,439	70,238	79,212	77,345	40,599
Southland	13,328	29,630	44,673	109,668	25,076	20,283	9,347	21,579	20,893
Totals	512,634	529,720	544,153	668,064	398,497	361,904	308,581	384,449	394,324

IV.—HOLDINGS TAKEN UP UNDER SETTLEMENT CONDITIONS DURING EACH OF THE YEARS ENDED 31ST MARCH, 1891-99 (EXCLUSIVE OF PASTORAL RUNS AND MISCELLANEOUS LEASES AND LICENSES), CLASSIFIED ACCORDING TO SIZE.

Size.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Under 1 acre	170	214	154	176	256	259	154	103	298
1 to 50 acres	531	581	727	739	696	719	588	496	571
51 to 250 acres	603	617	1,253	933	757	1,198	709	616	633
251 to 500 acres	307	255	264	341	169	232	178	197	277
501 to 1,000 acres	173	187	104	150	70	70	84	63	128
1,001 acres and upwards	97	99	76	115	40	26	22	64	51
Totals	1,881	1,953	2,578	2,454	1,988	2,504	1,735	1,539	1,958

* See notes as to forfeitures and surrenders on previous tables.

SECTION XX.—LAND FOR SETTLEMENTS.

A FULL description is given, in a special article belonging to Section 1, Part III., of the objects and method of the Land for Settlements Acts, under which the acquirement by Government is authorised, through purchase from private owners, of properties for subdivision into small farms to meet the want felt of Crown lands for disposal in places where they are specially in demand.

The report of the Chairman of the Board of Land Purchase Commissioners on the transactions for the twelve months ended the 31st March, 1899, states:—

Fifty-one estates, of a total area of 534,682 acres, were offered during the year. Of that area 47,192 acres were declined, not recommended, or withdrawn, leaving 487,490 acres, of which an area of 271,905 acres is under consideration, and an area of 215,585 acres was recommended for purchase. Including with this latter area part of the land offered in the previous year, twenty-four estates were recommended for purchase, with the result that the offers were accepted for thirteen, of an aggregate area of 102,204 acres, for the sum of £582,115. Of the other eleven estates, the owners of three declined the prices offered; the owners of five have the offers made them under consideration; and in the case of three estates no offers have yet been made.

The names of the estates purchased are:—Karapiro, Willows, Mahora, Starborough, Richmond Brook, part of Flaxbourne, Waikakahi, Tamai, R.S. 20184, R.S. 2682, R.S. 36228, R.S. 36469, and part of Elderslie. With the exception of Richmond Brook, Tamai, and Elderslie, now under survey, possession of all was given within the year under review.

The total purchases under the Land for Settlements Act since its commencement are sixty-two estates, containing an area of 256,829 acres, at a cost of £1,250,647 for land, and £53,862 for road formations, surveys, and administration. In all, a total of £1,304,509.

The limit of appropriation fixed by statute, which expires on 31st March, 1900, is £2,000,000. There is therefore a balance of £695,491 available for additional purchases up to that date, after which no new business can be entered on. Recently there have been several large estates offered, which if purchased will, together with the price to be paid for Hatuma Estate, and the offers to purchase now under consideration by several landowners, if accepted, absorb the greater portion of the above sum.

The Surveyor-General's report to the Hon. the Minister of Lands on the condition and settlement of the lands acquired and handed over to his department under the above-mentioned Acts gives the particulars of the estates offered for selection as follows:—

There have been fewer estates dealt with during the year ended the 31st March last than in the previous period, the number for 1899 being seven, containing an area of 90,708 acres 1 rood 4 perches, whilst that for 1898 was fourteen, of a total area of 58,691 acres 1 rood 31 perches.

Since the 31st March the greater part of the area of 11,663 acres unselected at that date has been taken up.

In addition to the foregoing figures there have been thirty-five selections in the estates acquired prior to 31st March, 1898. Of the four estates at that date which showed the largest amount of unselected land, viz.: Okauia, Pomahaka, Otahu, and Beaumont (total, 12,896 acres), 7,592 acres have been selected during the year, which, together with other selections, only leaves in the hands of the Government an area of 4,759 acres.

The forfeitures for non-compliance with the conditions of the leases, together with surrenders, numbered thirty, the area so forfeited being 2,643 acres 3 roods 20 perches, let for a rental of £463 9s. 4d. Most of the forfeited sections have been relet.

The arrears of rent on the 31st March amounted to £2,938 6s. 9d., which was owing by 134 lessees, or an average of £22 per selector.

The reports of the Commissioners on the different estates will be found in the Annual Report of the Lands and Survey Department of this year, and from these it will be seen that considerable progress has been made on each estate. The effects of the dry weather of last year, together with some high winds when the crops were coming on this year, were still felt at the date of the reports, and the arrears of rent are in large measure due to those causes, which are, however, only temporary in their operation.

The number of estates acquired under the Act, and which have been offered for selection, is fifty-six, containing an area of 243,947 acres (in which are included 3,112 acres of Crown land, being leases held by the former owners but now surrendered and dealt with as part of the estates). On these estates, at the 31st March last, there were 3,077 persons residing, the number of houses being 813, whilst the value of the improvements on the estates amounted to £129,133 18s. 9d.

The total cost of the estates purchased to the 31st March, 1899 was	£1,170,305
Cost of roads, surveys, administration, and preliminary expenses	53,862
	1,224,167
Less cost of Richmond Brook Estate, not yet selected ..	21,921
	£1,202,246

The lands disposed of are let at an annual rental of ..	£57,747
The lands unlet (exclusive of roads, unlet reserves, &c.) are valued at a rental of	4,503
	£62,250

It will thus be seen that if the whole of the lands were let, the rentals would bring in a return of 5·17 per cent. on the capital invested in the estates that have been offered for selection. On the other hand, the rentals of land actually let are bringing in a return of 4·8 per cent. on the amount invested. As much of the land unlet at the 31st March has since been disposed of, the rentals at the time of writing are actually bringing in over 5 per cent. on the capital sunk in them.

The sum actually payable for interest, calculated as for the 31st March, on the money raised for the purchase of these estates was £42,497 3s. 5d., as against a rental of £57,747.

The construction of the branch railway or tram-line to give access to the limekilns on the Makareao Estate is in hand by the Public Works Department, and is approaching completion; whilst the work of building the kilns has also been commenced. A sum of £4,685 9s. 10d. has been expended in this work up to the 31st March, 1899.

The estates, &c., acquired in each district under the Land for Settlements Acts to the 31st March, 1899, are next shown :—

Name of Estate.	Area acquired, including ascertained Surplus or Deficiency.			Name of Estate.	Area acquired, including ascertained Surplus or Deficiency.		
Auckland—	A.	R.	P.	Canterbury—*contd.*	A.	R.	P.
Opouriao	7,604	0	0	Epworth	21	0	3
Okauia	5,920	0	0	Ashley Gorge ..	1,165	3	6
Rangiatea ..	4,004	0	0	Omihi Valley ..	20	0	0
Karapiro	2,270	3	9	Orakipaoa ..	384	0	31
Hawke's Bay—				Highbank ..	9,121	3	8
Raureka	427	2	0	Otarakaro ..	39	3	9
Elsthorpe.. ..	9,740	0	0	Wharenui ..	73	1	10
Waimarie ..	430	1	30	Rakitairi	3,526	1	16
Pouparae ..	337	3	4	Waiapi	1,124	2	36
Mahora	1,133	3	0	Horsley Down ..	3,982	3	35
Tomoana	111	3	38	Albury	19,539	1	24
Willows	775	1	36	R.S. 36469, Cannington (R.S. 1862) ..	26	2	24
Wellington—				Marawiti	2,028	2	33
Paparangi ..	322	3	32	Hekeao	2,254	2	11
Marlborough—				Waikakahi ..	48,248	0	21
Blind River ..	5,020	0	0	Pawaho	52	0	18
Leasehold surrendered ..	487	0	0	Otago—			
Omaka	3,898	0	0	Pomahaka* ..	7,478	2	2
Puhipuhi ..	320	0	0	Teanaraki* ..	351	0	39
Starborough, part Flaxbourne, and Exchange ..	34,224	0	0	Tahawai*	70	1	35
Crown Leasehold surrendered ..	1,625	0	0	Maerewhenua* ..	11,163	3	31
Canterbury—				Puketapu	509	0	6
Pareora	620	2	13	Ardgowan* ..	4,268	3	28
Studholme Junction	109	0	7	Makareao* ..	2,383	0	4
Kapua	574	1	22	Makareao Extensi'n*	2,573	3	6
Rosebrook ..	600	1	8	Momona* ..	224	0	15
Otaio	373	3	14	Tokarahi* ..	11,259	2	36
Patoa	4,535	3	14	Southland—			
The Peaks ..	2,811	0	9	Merrivale	9,998	0	0
Roimata	48	3	37	Otahu	6,044	0	29
Kereta	105	2	29	Beaumont* ..	4,322	3	20
Braco	27	2	4	Westland—			
				Poerua	3,230	1	6
				Totals ..	243,947	2	8

* Old closed roads and small areas of Crown lands added.

Of the total area (243,948 acres) acquired to the 31st March, 1899, 218,486 acres were leased to 1,304 selectors, the annual rent therefor now payable being £57,747 ; the area occupied by roads and reserves was 6,665 acres, thus leaving 18,797 acres not yet offered for selection or otherwise unlet.

SECTION XXI.—FINANCE.

SUBSECTION A.—REVENUE AND EXPENDITURE OF THE GENERAL GOVERNMENT.

FOR the year ended 31st March, 1899, the receipts from all sources amounted to £5,258,228, while the actual expenditure, excluding £425,000 transferred to the Public Works Fund in terms of section 17 of "The Appropriation Act, 1898," was £4,858,511. Including as expenditure the sum of £425,000 which was handed over from the Consolidated Fund for purposes of public works, the total was £5,283,511, or £25,283 in excess of the receipts, but the amount in hand at the beginning of the year was £521,144, leaving a credit balance on the 31st March, 1899, of £495,861.

The chief heads of revenue and expenditure are shown in the following table:—

REVENUE AND EXPENDITURE.

Revenue.	£	£	*Expenditure.*	£	£
Balance on 31st March, 1898	...	521,144	His Excellency the Governor	5,000	
Customs duties	1,965,018		Legislative	46,369	
Beer duty	76,213		Ministers' salaries and allowances	8,510	
Stamps	779,399		Interest and Sinking Fund charges	1,767,468	
Land-tax	298,053		Exchange and commission	25,394	
Income-tax	115,480		Pensions and allowances	34,937	
Railways	1,465,507		Railways	968,917	
Registration and other fees	73,822		Public Instruction ...	475,218	
Marine dues	25,490		Postal and telegraph services	388,546	
Miscellaneous	113,647		Judicial and legal ...	246,434	
Territorial revenue ...	273,799	5,186,428	Hospitals and charitable institutions	86,901	
Other receipts—			Defence	119,051	
Proceeds of debentures for Sinking Fund accretions	54,300		Subsidies to local bodies	72,640	
Net recoveries from Government Advances to Settlers' Office Management Account	17,500	71,800	Department of Agriculture	60,792	
			Lunatic Asylums ...	53,095	
			Valuation Department	26,721	
			Customs	36,428	
			Marine (Harbours and Lights)	29,353	
			Printing and Stationery	26,387	
			Land and Income Tax Department	23,130	
			Registration of Land and Deeds, Births, Deaths, and Marriages ...	20,398	
			Public Buildings and Domains	16,071	
			Old-age Pensions ...	3,124	
			Miscellaneous expenditure	102,106	
			Territorial expenditure...	215,591	4,858,511
			Other expenditure—		
			Paid to Public Works Fund ...		425,000
			Balance on March 31, 1899 ...		495,861
		£5,779,372			£5,779,372

Ordinary Revenue.

With the exception of "Stamps" the chief heads of ordinary revenue show increases for the year 1898–99 over the figures for 1897–98. Taking these items in order of their magnitude, the advance is shown below:—

Heads of Revenue.	Ordinary Revenue.				Increase.	
	1898–99.	Per Cent. of Total.	1897–98.	Per Cent. of Total.	Numerical.	Centesimal.
	£		£		£	Per Cent.
Customs duties	1,965,018	40·00	1,935,252	40·97	29,766	1·54
Railways...	1,465,507	29·83	1,370,572	29·01	94,935	6·93
Stamps	779,399	15·87	780,232	16·51	– 833*	– 0·11*
Land-tax...	298,053	6·07	267,287	5·66	30,766	11·51
Income-tax	115,480	2·35	115,210	2·44	270	0·23
Beer duty	76,213	1·55	72,179	1·53	4,034	5·59
Registration and other fees	73,822	1·50	51,289	1·08	22,533	43·97
Marine	25,490	0·52	23,960	0·51	1,530	6·39
Miscellaneous	113,647	2·31	108,353	2·29	5,294	4·89
Ordinary revenue...	4,912,629	100·00	4,724,334	100·00	188,295	3·99

* Decrease.

Though the receipts from Customs duties only increased by 1·54 per cent. during the year, the amount derived from Land-tax was 11·51 per cent. greater than that shown for 1897–98, and Railway revenue shows an advance of 6·93 per cent. While the population of the colony increased at the rate of 1·98 per cent. during the year, the ordinary revenue advanced at the higher rate of 3·99, as shown above.

The Customs and excise duties constituted in 1898–99 £41 11s. out of every £100 of ordinary revenue collected; railways, £29 16s. 7d.; and stamps, £15 17s. 5d. Of other items the land-tax yielded 6·07 per cent., and income-tax 2·35 per cent.

Territorial Revenue.

Territorial revenue increased from £263,296 in 1897–98 to £273,799 in 1898–99, or at the rate of 3·99 per cent. In the previous year, 1897–98, there was a decline of 3·54 per cent. Details for the last two years are as under:—

—	Territorial Revenue.				Increase or Decrease, 1898–99.	
	1898–99.	Per Cent. of Total.	1897–98.	Per Cent. of Total.	Numerical.	Centesimal.
	£		£		£	Per Cent.
Cash land sales	81,384	29·72	66,622	25·30	14,762	22·16
Deferred-payment land sales	21,911	8·00	25,956	9·86	-4,045	-15·58
Pastoral runs, rents, miscellaneous	170,504	62·28	170,718	64·84	-214	-0·13
Territorial revenue	273,799	100·00	263,296	100·00	+10,503	+3·99

By the above table the cash land sales for 1898–99 are shown to have increased by more than 22 per cent., and to supply nearly 30 per cent. of the whole territorial revenue; while rents and miscellaneous, which constitute about 62 per cent. thereof, have slightly declined.

Moneys received for lands sold under deferred-payment regulations show a decrease of £4,045, or 15·58 per cent., when compared with the figures for 1897–98.

Ordinary and Territorial Revenue.

The total ordinary and territorial revenue is found to have increased from £4,987,630 in 1897–98 to £5,186,428 in 1898–99, at the rate of 3·99 per cent., or almost exactly twice the rate at which the population has increased:—

	Ordinary. £	Territorial. £	Total Revenue. £
Year 1898–99	4,912,629	273,799	5,186,428
" 1897–98	4,724,334	263,296	4,987,630
Increase ..	188,295	10,503	198,798

After allowing for alteration in system of charging interest and sinking fund, the charges of the public debt in proportion to the ordinary and territorial revenue are found to have fallen from 41·6 per cent. in 1890–91 to 34·1 per cent. in 1898–99.

If the sum of £103,295, the amount of territorial revenue received by way of land sales in 1898–99, is deducted from the total revenue, the charges of the public debt will be found to have absorbed 34·77 per cent. of the revenue, reduced by the sum derived from relinquishment of real estate of the Crown.

Ordinary Revenue Expenditure.

The expenditure for 1898–99 (exclusive of expenditure properly belonging to territorial purposes) amounted to £4,642,920, of which the largest item, after the charges of the public debt, £1,767,468, was on account of railways, £968,917. Public instruction cost £475,218, of which £398,129 was for carrying on the Board schools; £16,392 for technical and higher education; £16,923 for Native schools; £12,679 for industrial schools; and £25,000 for school buildings. The postal and telegraph services cost £388,546. Under the heading "Judicial and Legal" the total sum expended was £246,434, of which the largest item was the police, £115,293; the next, District and Magistrates' Courts, £45,630; and, thirdly, prisons, £30,168. Hospitals and charitable institutions cost £86,901, and the lunatic asylums £53,095. Defence required £119,051; the Department of Agriculture £60,792; and the Valuation Department £26,721. Payments of Old-age Pensions absorbed £3,124 up to 31st March, 1899.

Territorial Expenditure.

The chief items of expenditure under this head are the Lands and Survey Department, £114,469, and Mines, £11,790; while there was paid to local bodies £83,839 (£37,776 being "thirds" and "fourths" under the Land Act; and £10,462 for the Greymouth, £6,326 for the New Plymouth, and £29,275 for the Westport Harbour Boards); besides £4,864 expended in management of water-races, and £629 in rates on Crown lands.

Loan Account Expenditure, 1898–99.

In addition to the expenditure above referred to, there were also disbursements during the financial year ended 31st March, 1899, out of the Public Works Fund to the amount of £916,327, chiefly for roads, railway construction, and for public buildings; also out of the Land for Settlements Account the large sum of £518,459 for purchase of estates to be cut up for close settlement. The Loans to Local Bodies Account, which deals with moneys used chiefly for roading the more inaccessible country, shows an expenditure of £92,400; and for interest on debentures, surveys, roads, &c., in connection with the Cheviot Estate £16,497 was paid. Details of all these are given. The total expenditure out of loan account was £1,548,683, but, as previously explained, this account was aided by a transfer from revenue of £425,000 to the Public Works Fund.

EXPENDITURE OUT OF LOAN ACCOUNT, 1898–99.

	£	£
Public Works Fund—		
Immigration	105	
Public Works, Departmental	10,090	
Railways	374,141	
Roads	295,534	
Development of goldfields	17,854	
Purchase of Native lands	53,183	
Telegraph extension	28,551	
Public buildings	107,267	
Lighthouses, harbour-works, and defences ..	15,662	
Rates on Native lands	348	
Contingent defence	13,867	
Charges and expenses of raising loans	225	
		916,327
Cheviot Estate Account—		
Interest (including arrears)	15,850	
Surveys, Roading, &c.	534	
Expenses	113	
		16,497
Land for Settlements Account—		
Purchase of Estates	501,773	
Expenses	16,686	
		518,459
Loans to Local Bodies Account—		
Grants to Local Bodies	75,428	
Roads to open up Crown Lands..	16,972	
		92,400
.. ..		£1,543,683

The total amount of actual loan moneys expended under various heads from the beginning is roughly shown further on in a table dealing with the public debt of the colony.

The expenditure each year since 1884 on services provided for by the Public Works Fund has been :—

Year.	Immigration.	Railways.	Roads.	Development of Goldfields.	Telegraph Extension.	Public Buildings.	Lighthouses, &c.	Other Services.	Totals.
	£	£	£	£	£	£	£	£	£
1884-85...	57,148	663,063	317,043	8,029	25,799	117,361	34,033	114,251	1,336,727
1885-86...	11,675	725,496	335,904	9,032	36,010	86,859	133,975	136,435	1,475,386
1886-87...	12,454	615,265	278,617	7,665	18,952	89,598	148,705	162,228	1,333,484
1887-88...	15,598	403,726	219,519	1,016	22,984	90,529	76,825	135,962	966,159
1888-89...	8,791	272,077	106,440	55	12,047	34,592	47,593	132,344	613,939
1889-90...	867	289,572	84,126	284	16,346	35,473	9,434	46,362	482,464
1890-91...	1,823	180,020	71,289	821	16,292	22,819	2,666	39,026	334,756
1891-92 ..	817	154,416	101,605	2,257	27,773	34,791	7,347	62,495	391,501
1892-93...	242	220,894	105,506	3,811	29,245	31,101	11,205	60,502	462,506
1893-94...	343	176,304	147,418	5,272	16,127	44,032	6,588	10,713	406,797
1894-95...	101	247,545	61,757*	5,865	19,229	54,190	3,145	9,578	401,410*
1895-96...	Cr. 10	197,105	66,774*	9,345	35,538	76,240	7,409	19,928	412,329*
1896-97...	301	207,231	64,292*	10,508	36,791	70,579	11,600	26,683	427,985*
1897-98...	70	351,600	290,777†	33,117	29,384	73,585	5,295	81,715	865,543†
1898-99 ..	105	374,141	295,534†	17,354	28,551	107,267	15,662	77,713	916,327†

* Exclusive of moneys spent on roads under Lands Improvement, Native Lands Purhase, and Government Loans to Local Bodies Accounts: £103,076 in 1894-95, £162,757 in 895-96, £173,358 in 1896-97.

† The expenditure on roads under the two first Acts mentioned above (*) is included as part of Public Works Fund; the sum of £18,770 was also spent out of Loans to Local Bodies Account on roads to open up Crown lands in 1897-98, and £16,972 in 1898-99. These moneys have been excluded, as have also small sums expended in roading, &c., the Cheviot Estate.

Although the Public Works Fund forms the main portion of the expenditure out of Loan Account, all the money included in this table was not raised from loans. Amounts from the Revenue of the Consolidated Fund were paid to the Public Works Fund during the last eight financial years as under :—

	£		£
1891–92	30,000	1895–96	150,000
18 3	200,000	1896–97	150,000
1893–94	250,000	1897–98	300,000
1894–95	250,000	1898–99	425,000
		Total	£1,755,000

Conversion Account.

Three per cent. stock to the value of £2,581,108 was inscribed during the year 1898-99, which began with a credit balance of £2,542 in this account. Of this sum £2,251,108 were applied to the conversion of (£2,249,524) loans, and £312,200 to the redemption of debentures. Expenses, the chief items of which were stamp duty (£15,286), discount (£3,780), interest (£1,740), brokerage and commission (£883), absorbed £22,554, leaving a debit balance in this account of £2,212 on the 31st March, 1899.

Of the total (£2,251,108) conversions, £2,228,824 were effected at par, but on certain small parcels, premiums amounting in all to £1,584, were paid.

The interest-charge on the debentures prior to conversion into 3-per-cent. inscribed stock averaged slightly over 4 per cent. per annum, so that by the year's operations the annual expenditure under this head has been lessened by nearly £24,000.

Loans for Government Advances to Settlers.

A notable feature in the legislation of the year 1894 was the passing of the Government Advances to Settlers Act, a description of which, with its amending Acts and the loan operations under the same, will be found on page 402.

The applications for loans and the loans authorised to the 31st March, 1899, classified according to provincial districts, are shown in tabular form :—

Provincial Districts.	Applications for Loans.		Loans authorised.		
	Number of Applications.	Amount of Loans applied for.	Number of Applications.	Amount applied for.	Amount of Advances authorised.
		£		£	£
Auckland	1,969	542,023	1,330	388,176	339,985
Taranaki	931	318,356	843	279,607	243,650
Hawke's Bay ..	696	197,700	546	157,190	139,300
Wellington	2,016	733,517	1,709	659,092	570,113
Marlborough ..	288	105,097	211	78,427	70,800
Nelson	186	71,205	139	46,150	40,755
Canterbury	174	43,775	621	174,577	142,645
Westland	820	218,247	95	24,005	21,395
Otago	1,952	729,608	1,556	592,911	504,782
Totals	9,032	2,959,528	7,050	2,400,135	2,073,425

Of the 7,050 advances authorised, 828 applicants declined the grants (£374,280) offered them, so that the net advances to the 31st March, 1899, numbered 6,222, and amounted to £1,699,145.

About sixty per cent. of the total amount applied for was for the purpose of paying off existing mortgages at rates of interest higher than 5 per cent.

The number of applications for fixed loans has not been large, the amount (114 for £38,285) being little more than 1½ per cent. of the total advances.

Of the total applications 7,615 were for advances under £500 in value and 1,417 over, while of the advances authorised 5,889 did not exceed £500, only 1,161 being over that amount.

The liabilities and assets at 31st March, 1899, of the Government Advances to Settlers Office were :—

Dr. *Liabilities.*	£	s.	d.	Cr. *Assets.*	£	s.	d.	£	s.	d.
3-per-cent. Loan, redeemable 1st April, 1945...	1,500,000	0	0	Investment Account—						
Bank of England temporary advances	150,000	0	0	Advances on mortgages	£1,638,580	0	0			
Consolidated Fund advances	7,000	0	0	Less repayments ...	203,751	1	9	1,434,828	18	3
Suspense Account	1,648	4	5	Temporary investments Bank of New Zealand guaranteed stock				4,836	17	0
Accrued interest payable ...	1,656	0	6	Sinking Fund Investment Account with Public Trustee				31,589	16	1
Profit and Loss Account ...	12,321	16	1	Mortgage instalments receivable, overdue				876	11	10
				Interest receivable, overdue				3,907	7	10
				" accrued				16,877	8	5
				Loan-flotation charges ...				105,897	7	5
				Cash in hand and in bank ...				73,811	14	0
	£1,672,626	1	0					£1,672,626	1	2

New Zealand Consols.

Another important financial Act, termed the New Zealand Consols Act, was passed in 1894, with the intention of providing further means of investment for the savings of persons resident in the colony. Steady progress is being made in this class of deposits, showing that the public are recognising the system as a means of safe and profitable investment of their savings. It is singular that deposits of moneys belonging to trust funds or minors are not more freely made. It is thought that the advantage of such an investment at a fair rate of interest and of a permanent character is not widely enough known.

Up to the 31st March, 1898, deposits amounting to £356,185 had been received in sums ranging from £5 to £150,000, and during 1898–99 the deposits inscribed totalled £29,740, making the sum invested to the 31st March, 1899, £385,925.

The system of making deposits in New Zealand Consols is fully described in Part III. of this book, on page 436.

Aid to Public Works and Land Settlement.

"The Aid to Public Works and Land Settlement Act, 1896," empowered the Colonial Treasurer to raise £1,000,000: in aid of the Public Works Fund to the extent of £500,000, and the Lands Improvement Account and the Native Lands Purchase Account, £250,000 each. The sum of £750,000, bearing interest at 3½ per cent. per annum, was raised locally at par (£500,000 being issued with an alternative currency of ten or twenty-five years); the balance of £250,000 being placed upon the London market in the form of 3-per-cent. inscribed stock, along with the further loan referred to in the succeeding paragraph.

The Aid to Public Works and Land Settlement Act Amendment Act, passed in 1897, authorised the raising of an additional sum of

£250,000 to be applied for the purpose of procuring £200,000 for further rolling-stock for railways, and for the repair of damages to lines by floods or otherwise; £25,000 for erection and repair of public-school buildings, and another sum of £25,000 for purposes of building and equipment of technical schools.

"The Aid to Public Works and Land Settlement Acts Amendment Act, 1898," provided for raising £500,000 in addition to £250,000 raised under the Amendment Act of 1897, and the £1,000,000 under the principal Act of 1896, the provisions of which extend to the new Act.

Of £500,000 which is paid to the Public Works Fund the amount of £175,000 is allocated to railways construction, £200,000 is for new rolling-stock for open railways, and £125,000 for the construction of roads, bridges, and such other works as may be authorised.

Loans under Land for Settlements Acts.

The moneys raised under these Acts and the operations by way of purchasing estates to be cut up for close settlement form the subject of a special section of this part of the Year-book (No. XX.), for which see page 361B.

SECTION XXI.—FINANCE—*continued.*

SUBSECTION B.—PUBLIC DEBT.

THE gross public debt of the colony on the 31st March, 1899, was £46,938,006, an increase of £1,974,582 on the amount owing at the end of the preceding financial year. A detailed statement of particulars relative to the various loans is supplied.

The total increase by the issue of debentures and conversion operations during the year was £2,036,324. On the other hand, debentures and stock amounting to £61,742 were redeemed, leaving, as stated before, a net increase to the gross public debt of £1,974,582.

The particulars of the items of increase are clearly shown below :—

	£		£
Debentures issued for—		Debentures redeemed—	
Aid to public works and land settlement	360,000	Consolidated Stock Act, 1884 ...	61,742
Loans to local bodies	73,900	Gross debt on 31st March, 1899 ...	46,938,006
Purchase of land for settlement	499,000		
Sinking-fund accretions ...	54,300		
Inscription—			
New Zealand Consols	29,740		
Conversion operations... ...	19,384		
New £1,000,000 Loan—			
Public Works Fund	500,000		
Advances to Settlers	500,000		
	2,036,324		
Gross debt, 31st March, 1898	44,963,424		
	£46,999,748		£46,999,748

The following table of the public debt of New Zealand states the debentures and stock in circulation on 31st March, 1899, under the several Loan Acts or Ordinances of the Colonial and Provincial Governments, the dates when redeemable, the sinking funds accrued in respect of the same, and the annual charge thereon for interest and sinking fund :—

PUBLIC DEBT ON 31ST MARCH, 1899.

—	Amount Outstanding.		Due Date.	Sinking Funds Accrued.	Net Indebtedness.	Annual Charge.				Remarks.
						Rate.		Amount.	When payable.	
						Int.	S.F.			
	£	£		£	£	₩ c.	₩ c.	£		
New Zealand Loan Act, 1863...	...	266,800	15 July, 1914	116,685	150,115	5	1	16,008	15 Jan. and 15 July.	
Consolidated Loan Act, 1867 ...	...	429,000	Ann. drawing	...	429,000	5	...	21,450	Quarterly, 15 Jan., &c.	
Immigration and Public Works Loan Act, 1870	...	1,000,000*	1 June, 1907	564,460	435,540	4	2·4	64,000	1 June and 1 Dec.	Sinking Fund payable 13 Mar. and 13 Sept.
Canterbury Loan Ordinance, 1862	3,800	16,000	2 Jan., 1915	11,041	4,959	6	1	1,120	30 June and 31 Dec.	
	12,200		2 July, 1916							
Otago Loan Ordinance, 1862 ...	...	400	1 July, 1898	...	400	...	...	...	...	Debentures not presented for payment.
Consolidated Loan Act, 1867...	...	13,000	15 April, 1913	..	13,000	4	...	520	15 April and 15 Oct.	
Immigration and Public Works Loan Act, 1870	363,100	391,000	15 April, 1913	...	363,100	4	...	14,524	15 April and 15 Oct.	
	27,900		15 April, 1913	...	27,900	4½	...	1,256	15 April and 15 Oct.	
Defence and other Purposes Loan Act, 1870	25,000	100,000	1 July, 1910	...	25,000	4½	...	1,125	30 June and 31 Dec.	
	75,000		15 April, 1913	...	75,000	4	...	3,000	15 April and 15 Oct.	
General Purposes Loan Act, 1873	18,500	85,500	15 Oct., 1913	...	18,500	4	...	740	15 April and 15 Oct.	
	12,300		15 May, 1914	...	12,300	4	...	492	15 May and 15 Nov.	
	54,700		28 Nov., 1914	...	54,700	5	...	2,735	15 May and 15 Nov.	
District Railways Purchasing Acts, 1885-86	40,000	184,100	1 July, 1909	...	40,000	6	...	2,400	1 April and 1 Oct.	
	97,100		1 April, 1905	...	97,100	4	...	3,884		
	47,000		1 April, 1899	...	47,000	5	...	2,350		
Carried forward ...	...	2,485,800	...	692,186	1,793,614	...	...	135,604		

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* Only £200,000 has actually been issued to the public; the unsold debentures are available for the purpose of obtaining temporary advances from time to time.

PUBLIC DEBT ON 31ST MARCH, 1899—*continued.*

—	Amount Outstanding.		Due Date.	Sinking Funds Accrued.	Net Indebtedness.	Annual Charge.				Remarks.
						Rate.		Amount.	When payable.	
						Int.	S.F.			
	£	£		£	£	₰ c.	₰ c.	£		
Brought forward ...	...	2,485,800	...	692,186	1,793,614	...	...	135,604		* Represents the accrued Sinking Fund in respect of the total amount issued under "The Government Loans to Local Bodies Act, 1886," of which £912,300 has been converted into Consolidated Stock debentures.
Government Loans to Local Bodies Act, 1886	...	327,100	31 Dec., 1900	165,093*	162,007	3½	1½	30,039†	1 Mar. and 1 Sept.	
Consolidated Stock Act, 1877	... ...	29,150,302 6,161,167 5,662,120	1 Nov., 1929 1 Jan., 1940 1 April, 1945	... ...	29,150,302 6,161,167 5,662,120	4 3½ 3	... ...	1,166,012 215,641 169,864‡	1 May and 1 Nov. 1 Jan. and 1 July. 1 April and 1 Oct.	
Consolidated Stock Act, 1884—Colonial Issue	...	54,300	1 Sept., 1905	...	54,300	3½	...	1,900	1 Mar. and 1 Sept.	
Naval and Military Settlers' and Volunteers' Land Act, 1892	...	27,226	31 Oct., 1899	...	27,226	4½	...	1,225	30 April and 31 Oct.	† The Sinking Fund is payable on £1,239,400; the Land Assurance Fund is also charged with ½ per cent. as a contribution towards Sinking Fund.
Native Land Purchases Act, 1892	140,000 9,700	149,700	31 Oct., 1899 31 Oct., 1899	... ...	140,000 9,700	4½ 5	... ...	6,300 485	30 April and 31 Oct. 30 April and 31 Oct.	
Land for Settlements Act, 1892	...	45,276	31 Oct., 1899	...	45,276	4½	...	2,037	30 April and 31 Oct.	
Land for Settlements Act, 1894	134,100 605,990 349,000	1,089,090	31 Oct., 1899 31 Oct., 1899 1 April, 1909	... .	134,100 605,990 349,000	4 3½ 3¾	... ...	5,364 21,210 13,088	30 April and 31 Oct. 30 April and 31 Oct. 1 April and 1 Oct.	‡ £60,000 of this amount will be recouped by the Government Advances to Settlers Office.
Lands Improvement and Native Lands Acquisition Act, 1894	283,000 117,000	400,000	30 Sept., 1908	...	283,000 117,000	4 3½	... ...	11,320 4,095	31 Mar. and 30 Sept. 31 Mar. and 30 Sept.	§ Loan may be paid off at any time after 15th February, 1907, on six months' notice being given.
New Zealand Consols Act, 1894	...	385,925	1 Feb., 1910	...	385,925	3½	...	13,507	1 Feb. and 1 Aug.	
Aid to Public Works and Land Settlement Act, 1896, and Amendment Act, 1897	250,000 500,000 100,000 150,000	1,000,000	1 Feb., 1902 15 Aug., 1921§ 31 Oct., 1903 4 Jan., 1904	... ...	250,000 500,00 100,000 150,000	3½ 3½ ‖ ‖	... ...	8,750 17,500 3,500 5,250	1 Feb. and 1 Aug. 15 Feb. and 15 Aug.	‖ ½ per cent. over bank rate; varying interest, calculated at 3½ per cent.
Totals		46,938,006	...	857,279	46,080,727	...	...	1,832,691		

Treasury Bills amounting to £710,000 are not included.

Interest and Sinking Fund.

Of the total amount of outstanding public debt at the end of March, 1899—viz., £46,938,006—more than thirty-one millions sterling bore interest at the rate of 4 per cent., over eight millions sterling at 3½ per cent., and nearly six millions sterling at 3 per cent. The following are the rates of interest payable on the complete public debt:—

Rates of Interest.	Amount at each Rate.
	£
6 per cent.	56,000
5 per cent.	807,200
4½ per cent.	265,402
4 per cent.	31,146,402
3¾ per cent.	349,000
3½ per cent.	8,651,482
3 per cent.	5,662,120
Nil	400*
Total	£46,938,006

* Debentures not presented for payment.

The total amount of interest payable to bondholders on the full amount of the public debt as quoted above is £1,787,272, which gives an average rate of £3 16s. 2d. per £100. On the total public debt outstanding on the 31st March, 1891, the average interest charge was £4 10s. 3d. per £100. During the period 1891–99, therefore, the average rate is found to have declined 16 per cent. The declared values of certain principal articles of colonial produce exported show, during the same period, similarly a decline.

The actual payments during ten years for interest and sinking fund are shown hereunder:—

Year ended 31st March.	Amounts actually paid for Interest and Sinking Fund.				
	Public Debt.			Treasury Bills.	Total.
	Interest.	Sinking Fund.	Total.	Interest.	
	£	£	£	£	£
1890 ..	1,752,020	115,781	1,867,801	29,801	1,897,602
1891 ..	1,718,618	112,540	1,831,158	27,094	1,858,252
1892 ..	1,747,376	107,469	1,854,845	38,084	1,892,929
1893 ..	1,662,029	117,535	1,779,564	41,564	1,821,128
1894 ..	1,711,583	123,703	1,835,286	50,410	1,885,696
1895* ..	1,619,925	57,979	1,677,904	38,985	1,716,889
1896* ..	1,602,933	41,183	1,644,116	39,659	1,683,775
1897* ..	1,630,577	41,858	1,672,435	37,034	1,709,469
1898* ..	1,668,697	43,380	1,712,077	29,336	1,741,413
1899* ..	1,689,749	44,651	1,734,400	33,068	1,767,468

* The alteration made in 1894-95 of the system which previously obtained in dealing with the drawing loan of 1867 has affected the comparison of the figures for the last five years with those of the previous periods.

Although the amount paid for interest and sinking fund during 1898–99 was £26,055 greater than that for the previous year, the rate of charge per head of population decreased slightly, and this notwithstanding the increase of the public debt by no less than £1,974,582. The saving in interest-charge effected by conversion operations alluded to elsewhere has helped to bring about this result.

The securities in which the sinking funds were held, as on the 31st March, 1899, are specified in the statement following:—

STATEMENT of the SECURITIES in which the SINKING FUNDS of the several LOANS were invested on the 31st March, 1899.

Investments in—	£	s.	d.
New Zealand 5-per-cent. Debentures	3,440	0	0
" 4½-per-cent. Debentures	1,700	0	0
" 4-per-cent. Inscribed Stock	115,393	5	10
" 3½-per-cent. Inscribed Stock	1,291	9	3
County of Tauranga 5-per-cent. Debentures	60	0	0
County of Waitemata 6-per-cent. Debentures	480	0	0
Borough of Brunner 6-per-cent. Debentures	840	0	0
Borough of Hokitika 6-per-cent. Debentures	1,860	0	0
Borough of Patea 4½-per-cent. Debentures	200	0	0
Borough of Tauranga 5-per-cent. Debentures	200	0	0
Borough of Thames 5½-per-cent. Debentures	900	0	0
Westport Harbour Board 4-per-cent. Debentures	510	0	0
Waimakariri–Ashley Water-supply Board 5-per-cent. Debentures	300	0	0
Wellington and Manawatu Railway Company 5-per-cent. Debentures	540	0	0
Mortgages	123,300	0	0
New South Wales 4-per-cent. Debentures	20,800	0	0
New South Wales 4-per-cent. Stock	5,486	6	7
New South Wales 3½-per-cent. Stock	84,269	13	4
New South Wales 3-per-cent. Stock	37,781	7	0
Victoria 4-per-cent. Debentures	23,000	0	0
Victoria 4-per-cent. Stock	43,233	17	4
Victoria 3½-per-cent. Stock	77,009	4	1
South Australia 4-per-cent. Debentures	24,700	0	0
South Australia 4-per-cent. Stock	4,851	0	5
South Australia 3½-per-cent. Stock	38,068	11	6
South Australia 3-per-cent. Stock	59,731	14	5
South Australia 3-per-cent. Consols	634	17	11
Canada 4-per-cent. Debentures	18,200	0	0
Canada 4-per-cent. Stock	60,000	0	0
Canada 3½-per-cent. Stock	34,022	11	8
Canada 3-per-cent. Stock	32,670	17	3
	815,474	16	7
Cash balance on 31st March, 1899	41,804	3	8
Total	£857,279	0	3

Net Indebtedness: Comparison with past Years.

The net public debt, after deducting the accrued sinking fund (£857,279), was on 31st March, 1899, £46,080,727, an increase of £1,999,206 during the year. The net indebtedness per head of population for 1898–99 is greater than in 1897–98 by £1 9s. 5d. In March, 1890, it stood at £60 5s. 3d.; in 1891, £59 11s. 10d.; in 1892, £59 2s.; in 1893, £58 2s. 7d.; in 1894, £57 8s. 10d.; in 1895, £57 9s. 9d.; in 1896, £60 2s. 4d.; in 1897, £60 13s. 9d.; in 1898, £60 4s. 11d; and in 1899, £61 14s. 4d. But, when considering the increase of the amount of debt per head as a burden on the people, regard should be paid to the effect of conversions on the amounts paid by way of charges of the public debt out of the revenue year by year. Remarks on this subject have been already made, and figures given previously, under the head of interest and sinking funds; also under revenue, which is shown to have been relieved substantially since the year 1890.

Years ended 31st March.	Amount of Debentures and Stock in Circulation.	Gross Indebtedness per Head of European Population.			Amount of Sinking Fund accrued.	Net Indebtedness.	Net Indebtedness per Head of European Population.		
	£	£	s.	d.	£	£	£	s.	d.
1890	38,667,950	62	10	1	1,386,185	37,281,765	60	5	3
1891	38,830,350	61	19	4	1,487,042	37,343,308	59	11	10
1892	38,713,068	60	14	8	1,037,862	37,675,206	59	2	0
1893	39,257,840	59	16	7	1,113,770	38,144,070	58	2	7
1894	39,826,415	58	17	0	951,924	38,874,491	57	8	10
1895	40,386,964	58	11	6	751,932	39,635,032	57	9	9
1896	43,050,780	61	4	5	778,891	42,271,889	60	2	4
1897	44,366,618	61	16	5	814,294	43,552,324	60	13	9
1898	44,963,424	61	9	0	881,903	44,081,521	60	4	11
1899	46,938,006	62	17	3	857,279	46,080,727	61	14	4

The debt of the colony as above stated does not include the unpaid loans raised by the several local bodies, amounting at the end of March, 1898, to £6,834,361, of which sum £5,491,200 was raised outside the colony. These are referred to in dealing with the finance of local bodies.

The increase of the gross public debt since the 31st March, 1891, amounts to £8,107,656. A schedule of items composing this sum is subjoined. It shows the purposes to which the money raised has been or is being devoted. The largest item is £2,000,000 raised for advances to settlers, which represents investments by the Government bearing interest and lent on continually improving security, the principal being repaid by instalments.

Other items which may be considered to represent interest-bearing investments are those under the heads "Land Settlement," "Native Land Purchases," "Loans to Local Bodies," "Lands Improvement," "N.Z. Consols," and "Bank of N.Z. Preferred Shares."

		£
Gross Public Debt, 31st March, 1899		46,938,006
„ 31st March, 1891		38,830,350
Increase		£8,107,656
	£	
Native Land Purchases	649,700	
Land Settlement (including Cheviot) ..	1,408,566	
Loans to Local Bodies	914,400	
Lands Improvement	500,000	
Advances to Settlers	2,000,000	
Bank of N.Z. Preferred Shares ..	500,000	
N.Z. Consols	385,925	
District Railways	47,000	
Public Works	1,335,000	
Increase by Conversions	626,728	
Sinking Fund Accretions	1,304,500	
Naval and Military Settlers	27,226	£
		9,699,045
Less Redemptions—		
Consolidated Stock Act, 1884, Debentures	1,260,420	
Other Debentures	330,969	
		1,591,389
Total net increase		£8,107,656

Prices of New Zealand Stock.

The highest and lowest London prices for the New Zealand 4, 3½, and 3-per-cent. stock, taken over a range of eleven years, are quoted:—

QUOTATIONS, NEW ZEALAND STOCK.

Year	4 per Cents.		3½ per Cents.		3 per Cents.	
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.
1888	104½	96¼	..	..	..	..
1889	109¼	99⅝	..	..	..	..
1890	109⅛	102¼	98⅝	93¼	..	..
1891	107½	100	98¼	91⅛	..	..
1892	106⅝	100	98	91½	..	..
1893	107¼	97	97½	90	..	..
1894	109⅞	105⅜	103½	96¼	..	..
1895	113½	105⅝	107½	100	95¾	91
1896	118¼	106⅛	110⅜	101½	103½	90
1897	117	112⅜	111	104¾	102	99½
1898	116⅞	108	109⅞	103	101½	96½

Prices of Australasian Stock.

The prices of stock of the Australasian Colonies in London for the years 1893 and 1897 show the position as affected by the financial and banking crisis in the former year, and the improvement that had taken place since 1893 and as late as 1897.

Colony.	Year when Stock Redeemable.	Prices, 1893.*		Prices, 1897.	
		Highest.	Lowest.	Highest.	Lowest.
	4 PER CENTS.				
Queensland	1915–24	103½	89	116	111
New South Wales	1933	111	97½	123¾	117½
Victoria	1920	103¼	95	115	111⅛
South Australia	1917–36	105⅜	93	114½	111¼
Western Australia	1934	107½	102	123¾	120
Tasmania	1911†	102¾	97¼	110	105
New Zealand	1929	107¼	97	117	112⅝
	3½ PER CENTS.				
Queensland	1924	92¼	75	108⅝	104⅝
New South Wales	1924	97⅛	83⅛	111½	107¾
Victoria	1923	93⅛	79‡	108⅜	104¼
South Australia	1939	96	85½	113½	109¾
Tasmania	1920–40§	96	84	111⅛	105½
New Zealand	1940	97½	90	111	104¾

* Figures taken from Victorian Year-book, 1894.

† Debentures. ‡ Rate for week ending 19th May, time of Australian banking crisis.

§ At any time on or after 1st January, 1920, on giving twelve months' notice.

Public Debt of Australasian Colonies, &c.

The following table shows the debt of each of the Australasian Colonies in 1897 or 1898:—

Colony.	Amount Outstanding.	Accrued Sinking Fund.	Net Indebtedness.	Rate of Net Indebtedness per Head of Population at End of Year.		
	£	£	£	£	s.	d.
Queensland (Dec., 1897)	33,498,414	..	33,498,414	69	2	3
New South Wales (June, 1898)	63,112,720	48,969	63,063,751	47	13	0
Victoria (June, 1897) ..	46,929,321	..	46,929,321	40	0	4
South Australia (Dec., 1897)	24,408,000	17,500	24,390,500	68	0	10¾
Western Australia (June, 1898)	9,203,738	255,784	8,947,954	52	6	8¾
Tasmania (Dec., 1897) ..	8,390,026	138,036	8,251,990	48	1	2
New Zealand (Mar., 1899)	46,938,006	857,279	46,080,727	61	14	4

The amount of net indebtedness per head of population in December, 1897, in Queensland and South Australia was thus greater than that for New Zealand in March, 1899.

The public debt of England, nearly £640,000,000, is £16 per head, and that of the United States £263,000,000, or only £3 10s. per head of the population. (*Statist* of 23rd April, 1898.)

Public Works in New Zealand.

The burden of a public debt depends greatly on the measure in which it is expended on reproductive works, and on the degree of prosperity enjoyed by the people. The generally rugged character of this country, and the natural difficulties appertaining to the sites of many of the towns, soon necessitated a large outlay on roads and public works. The need was fully recognised, and to some extent met, by the Provincial Governments, which have justly received great credit for their far-seeing and liberal exertions. A great deal of road-making, often of a very costly character, was accomplished, harbour and other improvements begun, and immigration encouraged. Some railways were made in Canterbury, Otago, and Southland. The City of Christchurch and the Canterbury Plains were connected with the Port of Lyttelton by a railway, which required the construction of a long and very costly tunnel through the intervening range of hills. In Otago, private enterprise, backed by the guarantee of the Provincial Government, built a railway from Dunedin to Port Chalmers, and some miles of line were made in Southland from the town of Invercargill into the interior; but no general and comprehensive scheme of public works could be carried out by the separate exertions of the Provincial Governments. In 1870, therefore, the General Government brought forward its public-works and immigration policy, by which it was proposed to raise a loan of ten millions for the construction of main trunk railways, roads, and other public works of importance to the colony as a whole, as well as for the promotion of immigration on a large scale, the expenditure to be spread over a period of ten years. This policy was accepted by the Legislature, and embodied in "The Immigration and Public Works Act, 1870."

The demands for local railways and other works soon caused the original proposals to be exceeded, and entailed an expenditure at a much more rapid rate and to a far greater amount than was originally contemplated. Although many of the works undertaken have been directly unremunerative, yet the effect of the policy, as a whole, has been largely to develop the settlement of the country, and to increase enormously the value of landed property; land, in parts which before the construction of railways was valued at from £1 to £2 per acre, having been subsequently sold at prices varying from £10 to £20 per acre. Moreover, the railway and telegraph-lines yield a revenue which covers a large portion of the interest on their cost after paying working-expenses.

Utilisation of Money composing Public Debt.

A statement is supplied, made up from a table given in the Financial Statement of 1897, to which the amount raised during the two past years is added, showing (though admittedly not with exactness) the purposes for which the money was raised or voted which now forms the public debt of the colony; and it gives the position (1) as in 1870, before the large expenditure under the public-works policy began; (2) as in March, 1891, prior to the passing of the Advances to Settlers Act; and (3) as in March, 1899:—

PUBLIC DEBT OF NEW ZEALAND, 1870–1891–1899, SHOWING APPROXIMATELY THE AMOUNTS RAISED OR VOTED UNDER VARIOUS HEADS, ARRANGED IN FOUR CLASSES.

	On 30th June, 1870. £	On 31st March, 1891. £	On 31st March, 1899. £
(*a.*) Railways	350,000	14,580,000	15,390,000*
Lands improvement (roads and bridges)	..	3,619,000	4,417,000
Public works and buildings ..	1,487,000	3,661,000	3,736,000
Land-purchases	306,000	1,546,000	3,542,000
Immigration	314,000	2,459,000	2,459,000
Maori war	2,357,000	2,357,000	2,357,000
Defence	..	1,638,000	1,650,000
Telegraphs	139,000	769,000	829,000
Goldfields and coal-mines ..	..	571,000	721,000
Lighthouses and harbours ..	47,000	484,000	490,000
(*b.*) Advances to settlers	..	..	2,000,000
Loans to local bodies.. ..	..	325,000	1,240,000
Bank of New Zealand preferred shares	..	..	500,000
New Zealand Consols deposits	..	..	386,000
(*c.*) Deficiencies in revenue ..	..	1,982,000	1,982,000
Charges and expenses of raising loans	583,000	1,637,000	1,637,000
Provincial liabilities	..	786,000	786,000
(*d.*) Miscellaneous	1,907,516	2,416,350	2,816,006
Total public debt ..	7,490,516	38,830,350	46,938,006

It will be found that on the 31st March, 1899, out of a total debt of £46,938,006 the amounts allocated for services formed approximately the following proportions of the whole:—

For Railways	32·79
„ Lands improvement (roads and bridges) ..	9·41
„ Public works and buildings	7·96
„ Land-purchases	7·55
„ Immigration	5·24
„ Maori war	5·02
„ Defence	3·51
„ Telegraphs	1·77
„ Goldfields and coal-mines	1·54
„ Lighthouses and harbours	1·04

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* NOTE.—Only a portion of expenditure of old Provincial Governments on railways became public debt of the colony. The total expenditure on railways (Provincial and General Government), to 31st March, 1899, was £17,142,930, which includes £1,104,281 spent by the Provincial Governments, of which £82,259 was for the Dunedin and Port Chalmers line.

The total sum is divided into four classes in the table, of which (*a*.) is composed of the various services above referred to, and the total of which forms 75·83 per cent. of the whole debt in 1899. Class (*b*.) consists of moneys devoted to what may be termed investments, being 8·79 per cent. of the total; (*c*.) moneys paid away in charges and expenses of raising loans, also to meet deficiencies of revenue, besides old provincial liabilities, 9·38 per cent.; and (*d*.), an amount of over two millions and a half sterling, set down as miscellaneous, and forming 6·00 per cent. of the debt.

The figures given as to railways do not include all the sums spent by the Provincial Governments, as explained in the note to the table, nor do the figures in some other items agree with those given elsewhere, made up from tables showing the expenditure out of the Public Works Fund, which, as previously explained, is augmented by contributions from the Consolidated Revenue Account.

The expenditure on railway-works has been kept within very narrow limits during the last few years. The railway expenditure during each of five quinquennial periods and one four-yearly period since the initiation of the public-works policy has been as follows:—

	£
1st July, 1870, to 30th June, 1875	3,575,362
1st July, 1875, to 31st March, 1880	4,919,712
1st April, 1880, to 31st March, 1885	3,120,680
1st April, 1885, to 31st March, 1890	2,308,319
1st April, 1890, to 31st March, 1895	978,498
1st April, 1895, to 31st March, 1899	1,130,077
Total	16,032,648

This great diminution in expenditure has necessarily involved proceeding with the railways at a very much slower rate, and New Zealand's expenditure on railways is now, with one exception, that of Tasmania, the lowest per head of the population of any of the Australasian Colonies. The following table shows the cost of railway-works, the mileage, the average cost per mile, the population, and the cost per head of the population in the several colonies referred to:—

Colonies.	Cost of Construction of Open Lines.	No. of Miles of Line open.	Average Cost per Mile.	Population	Cost per Head of Population			Year ended
	£		£		£	s.	d.	
Queensland ..	17,871,445	2,609	6,850	484,700	36	17	5	31st Dec., 1897.
South Australia	12,669,317	1,724	7,349	358,224	35	7	4	31st Dec., 1897.
Victoria ..	38,325,517	3,129	12,248	1,176,248	32	11	8	30th June, 1897.
Western Australia	5,047,261	992	5,088	161,924	31	3	5	30th June, 1898.
New South Wales	37,719,402	2,691	14,021	1,323,460	28	10	0	31st Dec., 1897.
New Zealand ..	15,993,903	2,055	7,783	731,713	21	17	2	31st Mar., 1898.
Tasmania ..	3,526,322	425	8,297	171,719	20	10	8	31st Dec., 1897.

In the foregoing table the cost per head of population for railway-construction is shown to have been between thirty and thirty-seven pounds sterling in the Colonies of Queensland, South Australia, Victoria, and Western Australia; in New South Wales it was over twenty-eight pounds; but in New Zealand and Tasmania the cost has been only a little over twenty pounds.

THE BANK OF NEW ZEALAND ASSETS REALISATION BOARD.

On page 293 reference is made to the establishment of an Assets Realisation Board for the purchase, in connection with the affairs of the Bank of New Zealand, of all the assets of the Estates Company and of the Auckland Agricultural Company.

The sales for the year ending 31st March last amounted to £105,318. The proportion of sales from the beginning (31st March, 1896, when the Board took office) to book-cost (£2,731,706) is 15·20 per cent. The land-tax valuation, plus 10 per cent. for sundry properties, and the General Manager's valuation for station properties, which together total £1,895,179, give a proportion of 21·91 per cent.

The Board's conduct of sales has been guided by the desire to realise as speedily as possible, consistent with fair and proper considerations for the inseparable interests of the bank and the colony. The total sales and amounts realised, classed according to provincial districts, are shown :—

	Estates.	Farms.	Town Sections.	Suburban Properties.	£
Auckland ..	3	62	507	45 ..	99,557
Hawke's Bay ..	..	..	9	.. ..	2,304
Wellington ..	..	16	20	1 ..	65,350
Marlborough ..	..	2	62	4 ..	7,869
Canterbury ..	2	34	15	62 ..	155,621
Otago ..	2	5	466	90 ..	56,067
					£386,768
Sundry proceeds: Sale of iron and furniture, fire insurance recovered, &c.					5,304
Stock sales on properties finally closed					23,153
					£415,225

SECTION XXI.—FINANCE—*continued*.

SUBSECTION C.—TAXATION.

THE direct taxation prior to 1892 consisted of a property-tax of 1d. in the pound on all assessed real and personal property (with an exemption of £500), and the stamp duties; but in 1891 a Land and Income Assessment Act was passed repealing the property-tax. A full description of the system of the land- and income-tax will be given in a special article in Part III. of this work. The leading features only are briefly stated here.

The Assessment Act of 1891 provides for an ordinary land-tax on the actual value of land, and an owner is allowed to deduct any amount owing by him secured on a registered mortgage. Under the original Act the deduction for improvements might not exceed £3,000; but, by the Amendment Act of 1893, the value of all improvements whatsoever is exempted from liability to land-tax. Besides this, an exemption of £500 is allowed when the balance, after making deductions as above stated, does not exceed £1,500; and above that a smaller exemption is granted, but ceases when the balance amounts to £2,500. Mortgages are subject to the land-tax. The revenue from the ordinary land-tax is, in round numbers, about £215,000 per annum. The rate of ordinary land-tax for 1898–99 was 1d. in the pound. Occupied Native land is taxed ½d. in the pound on the unimproved value.

In addition to the ordinary land-tax, there is a graduated land-tax which commences when the unimproved value is £5,000. For the graduated land-tax, the present value of all improvements is deducted; but mortgages are not deducted. The Act of 1893, while reducing the ordinary taxation on land by exempting all improvements, increased the graduated tax, and the revised rates are now one-eighth of a penny in the pound sterling when the value is £5,000 and is less than £10,000, from which the rate increases with the value of the property by further steps of an eighth of a penny until the maximum of 2d. in the pound is reached, payable when the value is £210,000, or exceeds that sum.

This graduated tax yields, in round numbers, £83,000 per annum, which is not included in the sum of £215,000 given above. Twenty per cent. additional tax is levied in case of persons who have been absent from the colony for three years or more prior to the passing of the yearly taxing Act. This amounts to about £1,000, and is included in the £83,000 shown above.

Income-tax is levied on all incomes above £300, and from taxable incomes a deduction of £300 is made. The rate of income-tax for 1898–99 was 6d. in the pound on the first taxable £1,000, and 1s. in the pound on taxable incomes over £1,000.

Companies pay 1s. in the pound, and are not allowed the £300 exemption. The Act of 1893 further disallowed the £300 exemption in the case of persons not domiciled in New Zealand.

The revenue derived from income-tax may be roughly set down at £115,500 per annum.

The indirect taxation is made up of Customs duties, and excise duty on beer made in the colony.

The following statement shows the total amount raised by the General Government taxation in 1885, 1890, and the last four financial years ending 31st March :—

	Amount of Revenue raised by Taxation.	Amount per Head of Population (excluding Maoris).
	£	£ s. d.
1885	2,016,730	3 10 10
1890	2,173,985	3 10 0
1895–96	2,335,761	3 7 1
1896–97	2,521,911	3 11 0
1897–98	2,678,576	3 13 11
1898–99	2,707,099	3 13 3

The average annual amount of revenue raised by taxation during the nine years, 1882 to 1890 inclusive, was £3 8s. 11d. per head of population, excluding Maoris.

It may be well to call attention to the fact that a rise in the rate of taxation per head of population may indicate (outside the question of increasing the rate of any particular tax levied) a satisfactory condition of business, as showing activity. In regard to the Customs, notwithstanding modifications of the tariff in 1895, the value of the imports for 1898–99 was greater than for 1896–97 or 1897–98, which would seem to show greater purchasing power than before, and that profits of trade would still allow of a large amount of duty being paid. The quantity of stocks in hand at the beginning and end of the two years, and any disturbance in prices during the period, may modify the above argument.

As the Maoris contribute somewhat to the Customs revenue, an allowance should be made on that account to ascertain more correctly the amount of taxation per head of the rest of the people. By including Maoris the Customs and excise duties per head of the rest of the population would be reduced by 2s. 10d. for the year 1898–99. If this amount be deducted from the taxation per head given for that year, the rate would be reduced from £3 13s. 3d. to £3 10s. 5d. This latter rate may fairly be used for comparison with the rates in the neighbouring colonies.

Of the total amount of taxation stated for the year 1898–99, the indirect taxation, *i.e.*, Customs and excise duties, amounted to £2,041,231, while land- and income-tax, with stamps for taxation, yielded £665,868, which constitutes direct taxation. So that the colony still raises 75 per cent. of its revenue from taxation by means of the indirect method.

Taxation by Local Governing Bodies.

The various local bodies levied taxation during the year ended 31st March, 1898, to the amount of £739,918, or £1 0s. 5d. per head of European population. Of the total sum, £439,418 was raised by general rates, £205,134 by special and separate rates, £76,960 by licenses, and £18,406 by other taxes.

Taxation in Australasian Colonies.

The following were the rates of General Government taxation per head in the Australasian Colonies in 1897–8, specifying the proportions derived from Customs and other taxes:—

Colonies.	Rate of Taxation per Head of Mean Population.			Proportion of Taxation from Customs Duties.	Ratio of Taxation by Customs to Value of Imports.
	Customs.	Other Taxes.	Total.		
	£ s. d.	£ s. d.	£ s. d.	Per Cent.	Per Cent.
Queensland ..	2 12 6	0 9 5	3 1 11	84·74	23·12
New South Wales	1 3 7	0 15 7	1 19 2	60·20	7·11
Victoria ..	1 15 0	0 10 0	2 5 0	77·66	13·29
South Australia	1 12 9	0 18 4	2 11 1	64·13	8·12
Western Australia	6 3 10	0 10 4	6 14 2	92·31	15·85
Tasmania ..	2 4 0	0 14 10	2 18 10	74·77	27·15
New Zealand (excluding Maoris)	2 15 5	0 18 6	3 13 11	74·94	24·92

SUPPLEMENTARY STATISTICS.

I.—PROGRESS OF THE COLONY, YEARS 1898 AND 1891.

SUMMARY.

		1898.	1891.	Increase
Estimated population (exclusive of Maoris), 31st December		743,463	634,058	109,405
Value of land and improvements—				
Unimproved value		84,401,244	75,787,895	8,613,349
Value of improvements		54,190,103	46,365,297	7,824,806
Land in cultivation—				
Holdings (in cultivation) ..	No.	*62,639	38,083	*24,556
Total area (including sown grasses and land in fallow, but excluding gardens and orchards (39,913 acres) and plantations of forest trees (47,216 acres))	Acres	11,984,606	8,462,495	3,522,091
In crops	„	1,688,703	1,285,768	402,935
In sown grasses	„	10,244,739	6,966,218	3,278,501
In fallow	„	51,164	210,509	−159,345
Live-stock—				
Horses	No.	258,115	211,040	47,075
Cattle	„	1,203,024	831,831	371,193
Dairy cows (included above) ..	„	333,536	206,906	126,630
Sheep	„	19,673,725	16,753,752	2,919,973

AUCKLAND PROVINCIAL DISTRICT, 1898-1891.

		1898.	1891.	Increase.
Estimated population (exclusive of Maoris)—				
Auckland Provincial District ..		162,595	134,724	27,871
City of Auckland and Suburbs† ..		57,616	51,287	6,329
Value of land and improvements—				
Unimproved value		14,236,611	12,196,424	2,040,187
Value of improvements		10,538,871	8,830,892	1,707,979
Land in cultivation—				
Holdings	No.	*15,541	8,608	*6,933
Total area (including sown grasses and land in fallow)	Acres	1,816,900	1,165,441	651,459
In crops	„	129,973	70,038	59,935
In sown grasses	„	1,678,115	1,060,741	617,374
In fallow	„	8,812	34,662	−25,850
Live-stock—				
Horses	No.	68,358	42,826	25,532
Cattle	„	323,264	234,306	88,958
Dairy cows (included above) ..	„	64,593	46,182	18,411
Sheep	„	2,015,142	1,500,102	515,040

NOTE.—The minus sign (−) signifies decrease.

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* The comparison is not quite a fair one, as in 1898 holdings of exactly one acre in extent, and certain holdings occupied by Maoris, have been included by the Department of Agriculture, which was not done in 1891.

† Census, 1896 and 1891, figures are given.

TARANAKI PROVINCIAL DISTRICT, 1898–1891.

		1898.	1891.	Increase.
Estimated population (exclusive of Maoris)—				
Taranaki Provincial District		33,613	22,421	11,192
New Plymouth Borough†		3,825	3,350	475
Value of land and improvements—				
Unimproved value		4,064,510	2,982,644	1,081,866
Value of improvements		2,913,888	1,529,045	1,384,843
Land in cultivation—				
Holdings	No.	*4,413	2,504	*1,909
Total area (including sown grasses and land in fallow)	Acres	698,662	308,072	390,590
In crops	"	25,665	15,380	10,285
In sown grasses	"	672,356	291,471	380,885
In fallow	"	641	1,221	−580
Live-stock—				
Horses	No.	17,558	10,915	6,643
Cattle	"	202,481	103,356	99,125
Dairy cows (included above)	"	74,331	26,951	47,380
Sheep	"	486,980	240,471	246,509

HAWKE'S BAY PROVINCIAL DISTRICT, 1898–1891.

		1898.	1891.	Increase.
Estimated population (exclusive of Maoris)—				
Hawke's Bay Provincial District		36,411	28,922	7,489
Napier Borough†		9,231	8,341	890
Value of land and improvements—				
Unimproved value		6,747,043	6,704,820	42,223
Value of improvements		4,273,864	3,864,044	409,820
Land in cultivation—				
Holdings	No.	*3,271	1,918	*1,358
Total area (including sown grasses and land in fallow)	Acres	1,650,381	1,085,454	564,927
In crops	"	41,524	36,218	5,306
In sown grasses	"	1,606,980	1,021,277	585,703
In fallow	"	1,877	27,959	−26,082
Live-stock—				
Horses	No.	17,841	13,480	4,361
Cattle	"	95,283	55,009	40,274
Dairy cows (included above)	"	13,425	9,039	4,386
Sheep	"	3,308,748	2,668,893	639,855

WELLINGTON PROVINCIAL DISTRICT, 1898–1891.

		1898.	1891.	Increase.
Estimated population (exclusive of Maoris)—				
Wellington Provincial District		129,738	99,098	30,640
City of Wellington and Suburbs†		41,758	34,190	7,568
Value of land and improvements—				
Unimproved value		16,772,595	12,456,612	4,315,983
Value of improvements		12,133,570	8,874,970	3,258,600
Land in cultivation—				
Holdings	No.	*9,871	5,808	*4,063
Total area (including sown grasses and land in fallow)	Acres	2,414,343	1,508,587	905,756
In crops	"	105,690	63,313	42,377
In sown grasses	"	2,307,820	1,440,893	866,927
In fallow	"	833	4,381	−3,548

NOTE.—The minus sign (−) denotes decrease.

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* See note on page 385.

† Census, 1896 and 1891, figures are given.

Live-stock—		1898.	1891.	Increase.
Horses	No.	39,870	30,542	9,328
Cattle	"	238,483	155,466	83,017
Dairy cows (included above) ..	"	58,492	30,615	27,877
Sheep	"	4,054,075	2,750,461	1,303,614

MARLBOROUGH, NELSON, AND WESTLAND PROVINCIAL DISTRICTS, 1898–1891.

Estimated population (exclusive of Maoris)—		1898.	1891.	Increase.
Marlborough Provincial District ..		13,243	12,964	279
Nelson Provincial District ..		37,612	35,154	2,458
Westland Provincial District ..		14,907	15,929	−1,022
Value of land and improvements—				
Unimproved value		6,851,506	7,395,637	−544,131
Value of improvements		3,937,702	3,555,449	382,253
Land in cultivation—				
Holdings	No.	*4,700	3,200	*1,500
Total area (including sown grasses and land in fallow)	Acres	787,657	475,860	311,777
In crops	"	79,600	55,431	24,169
In sown grasses	"	707,135	411,199	295,916
In fallow	"	922	9,230	−8,308
Live-stock—				
Horses	No.	15,259	15,181	78
Cattle	"	66,793	48,816	17,977
Dairy cows (included above) ..	"	19,158	13,759	5,399
Sheep	"	1,774,634	1,631,456	143,178

CANTERBURY PROVINCIAL DISTRICT, 1898–1891.

Estimated population (exclusive of Maoris)—		1898.	1891.	Increase.
Canterbury Provincial District ..		142,924	129,901	13,02
City of Christchurch and Suburbs† ..		51,330	47,846	3,484
Value of land and improvements—				
Unimproved value		20,458,825	19,148,867	1,309,958
Value of improvements		10,132,432	10,073,196	59,236
Land in cultivation—				
Holdings	No.	*10,854	7,563	*3,291
Total area (including sown grasses and land in fallow)	Acres	2,363,094	2,034,813	328,281
In crops	"	699,681	566,153	133,528
In sown grasses	"	1,654,811	1,409,785	245,026
In fallow	"	8,602	58,875	−50,273
Live stock—				
Horses	No.	45,487	47,567	−2,080
Cattle	"	87,471	82,058	5,413
Dairy cows (included above) ..	"	37,053	31,250	5,803
Sheep	"	4,072,687	3,559,533	513,154

OTAGO PROVINCIAL DISTRICT, 1898–1891.

Estimated population (exclusive of Maoris)—	1898.	1891.	Increase
Otago Provincial District	172,162	154,650	17,512
City of Dunedin and Suburbs† ..	47,280	45,869	1,411
City of Invercargill and Suburbs† ..	9,657	8,264	1,393

NOTE.—The minus sign (−) denotes decrease.

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* See note on page 385.

† Census, 1896 and 1891, figures are given.

		1898.	1891.	Increase.
Value of land and improvements—				
Unimproved value		15,270,154	14,902,891	367,263
Value of improvements		10,259,776	9,637,701	622,075
Land in cultivation—				
Holdings	No.	*13,989	8,487	*5,502
Total area (including sown grasses and land in fallow)	Acres	2,253,569	1,884,268	369,301
In crops	„	606,570	479,235	127,335
In sown grasses	„	1,617,522	1,330,852	286,670
In fallow	„	29,477	74,181	−44,704
Live stock—				
Horses	No.	53,742	50,529	3,213
Cattle	„	189,249	152,820	36,429
Dairy cows (included above)..	„	66,484	49,110	17,374
Sheep	„	3,961,459	4,402,836	−441,377

NOTE.—The minus sign (−) denotes decrease.

* See note on page 385.

The population of the Chatham and Kermadec Islands, which are not included in any provincial district, was 258 persons in 1898, and 296 in 1891.

II.—THE TOTALISATOR.

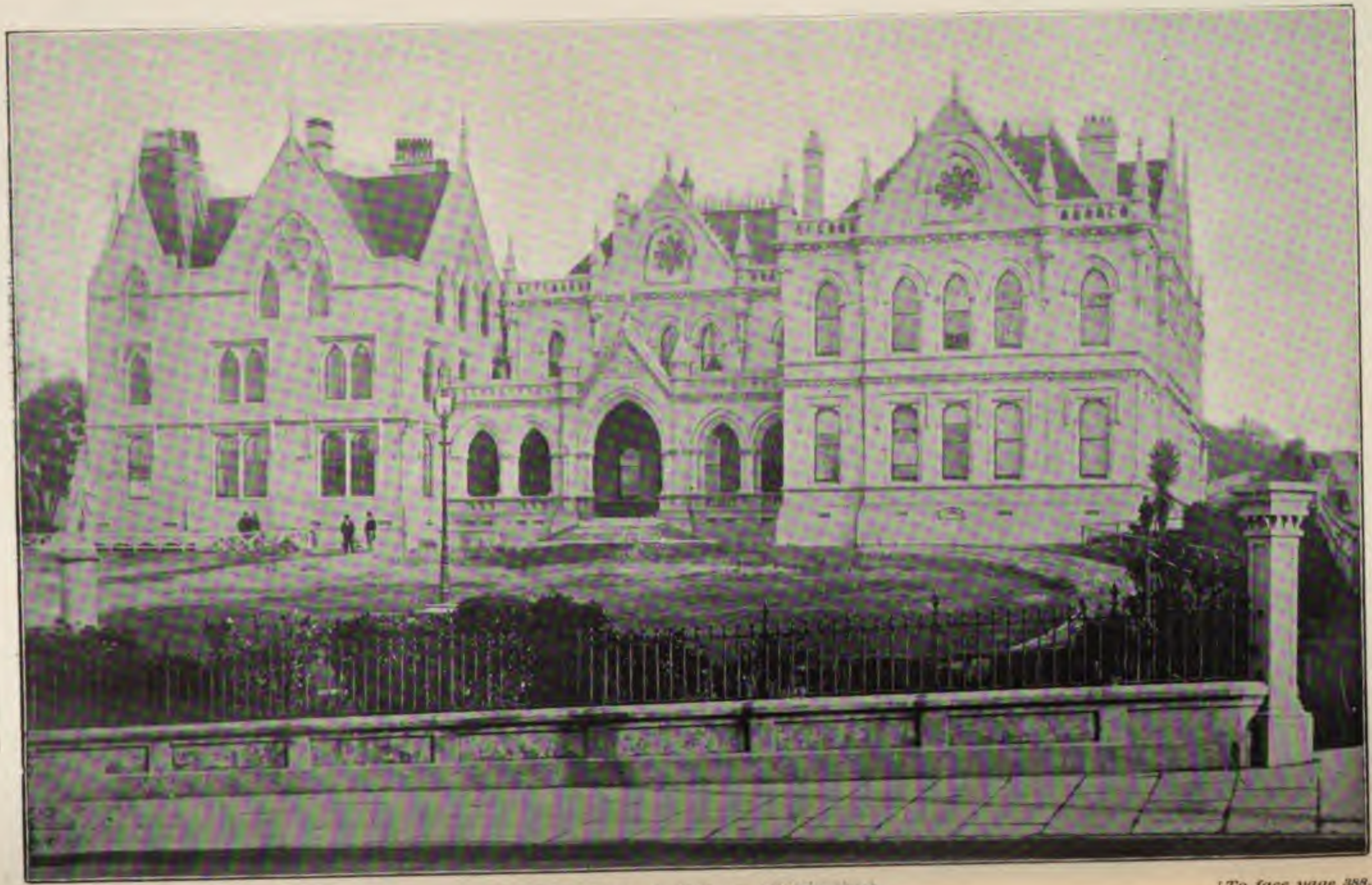
Year.	No. of Totalisator Licenses issued.	Days.	Percentage paid to Treasury.	Total Amount Invested by the Public.
			£	£
1889–90	187	241	..	..
1890–91	219	278	..	..
1891–92	234	300	7,591	506,078
1892–93	240	307	10,800	720,029
1893–94	247	318	10,375	691,673
1894–95	207	268	10,446	696,456
1895–96	170	256	11,156	748,768
1896–97	158	250	11,911	794,096
1897–98	155	268	13,237	886,567
1898–99	144	250	13,695	912,969

N.B.—The years used for purposes of the table are financial years, not the racing years. This accounts for the number of licenses issued in some of the periods being over the legal limit for one year.

III.—LICENSES UNDER THE GAMING AND LOTTERIES ACT, GRANTED TO RELIGIOUS DENOMINATIONS.

RETURN of LICENSES granted by the Colonial Secretary under "The Gaming and Lotteries Act, 1881," to Persons connected with Religious Denominations.

Year.	Total Number of Licenses granted.	Church of England.	Presbyterian Church.	Roman Catholic Church.	Jewish Church.	Not stated.
1894–95	46	9	10	23	..	4
1895–96	48	8	1	18	..	21
1896–97	62	30	3	29	..	..
1897–98	70	35	2	32	1	..



Parliament Buildings, Wellington.

[To face page 388.

PART III.—ARTICLES ON SPECIAL SUBJECTS.

SECTION I.

THE LAND SYSTEM OF NEW ZEALAND.

[By S. PERCY SMITH, F.R.G.S., Secretary for Crown Lands and Surveyor-General.]

THE Crown lands of New Zealand are administered under "The Land Act, 1892," together with its amendments and the regulations made thereunder.

The distinguishing features of the present land system are the outcome of ideas which have been gradually coming to maturity for some years past in this colony. These features involve the principle of State ownership of the soil, with a perpetual tenancy in the occupier. This, whatever may be the difference in detail, is the prevailing characteristic of the several systems under which land may now be selected. In New Zealand this tendency to State ownership has taken a more pronounced form than in any other of the Australasian Colonies, and the duration of the leases has become so extended as to warrant the name, frequently given to them, of "everlasting leases." In point of fact, most of the Crown lands are now disposed of for terms of 999 years. The rentals are based on the assessed value of the land at the time of disposal, without increase or recurring valuations. Under this system there is a fixity of tenure practically equal to freehold, and which, like freehold, necessarily carries with it the power of sale, sub-lease, mortgage, or disposition by will. Since all lands held under the Crown by "lease in perpetuity" are subject to the land-tax, the necessity for the periodical revaluations under the perpetual-lease system is done away with, the State reaping the advantage of the unearned increment through the before-mentioned tax. At the same time the improvements made in the soil by cultivation, &c., are secured to the tenant.

The advantages of this system to the selector are manifest. When it is taken into consideration that, with few exceptions, the Crown lands are, in their prairie condition, incapable of producing anything until brought into cultivation, the advantage to the settler of setting free his capital to develop the capabilities of the soil, rather than having to expend it in the purchase of a freehold, is very apparent. One of the most striking benefits of this system is the advantage it gives to the poor man, who, with little more capital than his strong right arm, is enabled to make a home for himself; which, under the freehold system, he is frequently unable to accomplish.

The values placed on the Crown lands are, as a rule, low, for the State does not so much seek to raise a revenue directly therefrom as to encourage the occupation of the lands by the people; this secures indirectly an increased revenue, besides other advantages resulting from a numerous rural population.

Again, underlying the whole of the New Zealand land system is a further application of the principle of "the land for the people"—viz., the restriction in area which any man may hold. This subject has been forced upon the attention of the Legislature by defects in former systems, under which one individual with means at his command could appropriate large areas, to the exclusion of his poorer fellow-settler. Under existing conditions, where the price at which land is offered is fixed for ever, and where choice of selection is by ballot, the poor settler has the same chance as the rich one, and may, should he wish it, hold under the Crown as much land. The quantity that a selector may hold is so fixed as to encourage the class of small farmers, and up to the statutory limit the amount he may select is left entirely to himself. The Act defines the amount of land any one may select at 640 acres of first-class, or 2,000 acres of second-class land, inclusive of any land he may already hold. These limits apply to lands which are thrown open for "free selection," as it is termed, but in some cases, where found desirable, the limit is by regulation made much smaller.

In addition to the many advantages offered by the "lease-in-perpetuity" system, the Land Act provides others, to meet the wants of different classes. The rule is almost invariable, that land thrown open for so-called "free selection" is offered to the public under three different tenures, the choice of which is left entirely to the would-be settler.

The three tenures are:—

(1.) For cash, in which one-fourth of the purchase-money is paid down at once, and the remainder within thirty days. The title does not issue until certain improvements have been made on the land.

(2.) Lease with a purchasing clause, at a 5-per-cent. rental on the value of the land; the lease being for twenty-five years with the right to purchase at the original upset price at any time after the first ten years.

(3.) Lease in perpetuity, at a rental of 4 per cent. on the capital value, as already described above.

The present land-laws have been in force since the 1st November, 1892, and, therefore, the returns of the Department of Lands and Survey for the year ending the 31st March, 1899, in respect of lands the tenure of which is optional, will give a fair idea of that tenure most favoured by the public. The figures are:—

1. Cash: 114 selections, 17,824 acres.
2. Occupation with right of purchase: 458 selections, 109,950 acres.
3. Lease in perpetuity: 362 selections, 99,262 acres.

"The Land Act, 1892," provides for a special class of settlement called "small-farm associations," which found favour with the public to a very considerable extent during the first three years after the Act of 1892 came into force, but is now superseded to a large extent by the "improved-farm settlements" system. The "small-farm association" system provides that, where not less than twelve individuals have associated themselves together for mutual help, such an association can, with the approval of the Minister of Lands, select a block of land of not more than 11,000 acres, but there must be a selector to each 200 acres in the block. The extreme limit that one person may hold is fixed at 320 acres. Settlements of this class are held on "lease in perpetuity" for 999 years, in a similar way to lands under the same tenure when thrown open for free selection. The conditions of residence and improvement are the same. The system offers many advantages to the settler, so long as the blocks of land are judiciously chosen, having regard to quality of land, access, markets, and the probability of employment being obtained in the neighbourhood. In the eagerness to obtain lands on such easy terms, these points have, in the past, not received sufficient attention by some of the associations, and in consequence their success remains to be proved.

Under "The Land Act, 1885," there was a somewhat similar system, but it allowed of the acquisition of the freehold. This is now being taken advantage of to a considerable extent.

The following figures show the amount of settlement under both Acts on the 31st March, 1899. At that date there were 812 selectors, holding 142,666 acres under various tenures and in different parts of the country. Many of the settlements, where the conditions are favourable, are doing well. Others, in inaccessible parts, are barely holding their own.

The "village-settlement system" of New Zealand has become widely known in the Australian Colonies, and has excited much inquiry with a view to its adoption in other parts. It is believed, however, that this and the "small-farm association" settlements, referred to above, are often confounded in the minds of the public, for of recent years there has been no very great extension of village settlements in this colony. On the 31st March last there were 1,625 settlers holding land under the village-settlement system, which comprise 36,797 acres, and the total number of persons residing in these settlements was 4,923. The total amount of rent and interest paid by these settlers since the commencement of the system is £36,994, the amount advanced by Government for houses, clearing, &c., being £25,932, of which £2,644 had been returned. The total value of improvements on the lands at the same date was £128,966. The above figures include the settlement on reserves and endowments.

The "improved-farm settlements" system during the last few years has largely taken the place of both the "village settlement" and the "small-farm association." In order to find work for the unemployed, considerable areas of forest-clad Crown lands have been set aside, and small contracts for the clearing, burning, and sowing these with grass have been let. The land is then subdivided into small farms, and let on "lease in perpetuity" at a rental sufficient to cover the cost of clearing, &c., together with a fair rental of the land. Up to the 31st March, 1899, forty-five settlements had been allocated, covering an area of 73,965 acres, situate in various parts of the colony. At that date 513 settlers had been allotted sections, who, together with their families, numbered 1,874 persons who were residing on the lands. They had felled and grassed 20,814 acres. The amount paid to the settlers up to the 31st March, 1899, was £57,329, and the total value of improvements on the land (including the Government advances) was £84,259.

The size of holdings averages about 100 acres.

With respect to other methods of dealing with the Crown estate, the "Digest of the Land-laws" appended hereto will give sufficient particulars.

THE LAND FOR SETTLEMENTS ACTS.

Allusion has already been made to the dearth of Crown lands suitable for small settlements in localities where they are most needed—*i.e.*, in settled districts, where the lands are frequently held in large estates, whose owners employ a good deal of labour. Not only is this the case in many parts of the colony, but there is also a want of land where the sons of settlers can obtain farms not far from the homes of their parents. To meet this want the Hon. J. McKenzie, the present Minister of Lands, introduced into the Legislature in the session of 1892 a Bill intituled "The Land for Settlements Act," which authorised the purchase from private individuals of suitable properties for subdivision into small farms not exceeding 320 acres in extent. Under the provisions of this and the amending Acts several properties have been acquired, and subsequently divided into small farms and leased in perpetuity at a 5-per-cent. rental, on a capital value fixed at a sufficient rate to cover first cost, together with survey, administration, and roads (if required). The process of acquisition is as follows: Whenever a property is offered to the Government, if it is so situated as to meet the object of the Act, a report on it is obtained by a qualified Government officer, and, should his report be favourable, the question of purchase is then referred to a Board of Land Purchase Commissioners, composed of the Inspector, who is the permanent Chairman, three other Government officers, and a member of the local Land Board, whose training and duties qualify them to advise the Government as to whether the purchase is a suitable one, and as to the price which should be given for the property. It is only on the advice of this Board that the Government acts. In nearly all cases the properties acquired have been improved farms, situated in settled districts, where the tenants have some chance of obtaining employment in the vicinity. The amount which might be expended per annum under the Act of 1892 was £50,000; but the Act of 1894 extended this amount to £250,000, and it also provided that the limit of land which might be selected should be the same as under "The Land Act, 1892." A further amendment of the Act in 1897 fixed the amount which might be spent yearly at £500,000. The Act also provides for the exchange of high-lying pastoral Crown lands for low-lying agricultural lands suitable for small holdings.

A new feature was introduced into the Act of 1894—namely, the power of taking lands compulsorily in cases where the Board could not agree with the owner as to price, &c., and where the Governor in Council decides that the possession of the land for purposes of subdivision is otherwise desirable. The amount payable to the owner is decided by a Compensation Court, composed of a Judge of the Supreme Court and two Assessors; one appointed by Government, the other by the owner of the property. Only one property has hitherto been acquired compulsorily, and that has since been disposed of on satisfactory terms.

The acquisition of lands under the Land for Settlements Acts should prove beneficial in providing homes for a large class of persons, who, from inexperience in the breaking in of new country or other reasons, are in a measure prohibited from occupying the waste lands of the Crown; and, moreover, as the properties acquired are all more or less improved, they seem to afford to the small-farmer class of the Old Country an opening for building up homes for themselves where their previous experience will be of use, instead of having to learn—often by sad experience—the methods adapted to a new and wild country.

"The Land for Settlements Act Amendment Act, 1896," contains special provisions as to the disposal of lands acquired under "The Land for Settlements Act, 1894," giving the preference to landless people, and requiring applicants for rural land to satisfy the Land Board as to their means to stock and cultivate the same and erect suitable buildings thereon. It gives the Board, in fact, a discretion as to who shall be entitled to apply for the lands. It also provides, in cases where buildings are on the land to be disposed of, that their value, apart from the capital value of the land, shall, with interest thereon at the rate of 5 per cent. per annum, be paid by the tenant in half-yearly instalments extending over a term of years.

Special regulations have been made as to advances by Government to successful applicants for allotments, in aid of the cost of fencing and planting the same and building dwelling-houses thereon; and also special provisions as to allotments for workmen's homes, the area of which should not in any case exceed 3 acres.

Regulations giving full directions to applicants under this Act have been issued from time to time, which should be in the hands of every one before applying for lands under this Act.

An account of the operations under the Land for Settlements Acts will be found in Part II. of this work.

PURCHASE OF NATIVE LANDS BY GOVERNMENT.

From about the year 1823 (which is the date of the first recorded deed) until the 6th February, 1840, the date of the Treaty of Waitangi, lands in New Zealand were acquired by direct purchase from the Maoris by individual members of the white races. During the years 1837 to 1839, or about the time it became probable that the sovereignty of the islands would be assumed by the Queen, the greater number of these purchases were made, and they extended to most parts of the country. These purchases are technically known as "the Old Land Claims," and their total number (including pre-emptive claims), as estimated by Commissioner F. Dillon Bell in 1862, was 1,376, covering an area of about 10,322,453 acres, out of which large area grants were recommended for 292,475 acres. These figures have been slightly added to since, but not to any very large extent. The large area shown above was reduced on survey to about 474,000 acres, situated principally to the north of Auckland. The difference in area between the amount granted and the total area surveyed became what are termed "surplus lands of the Crown." It was held that the Native title had been fully extinguished over the whole area surveyed; but, as by statute the claimants could only be granted 2,560 acres each, the balance became vested in the Crown on the assumption of the sovereignty, the Native title having been fully extinguished.

In many cases the titles did not issue to those to whom the land was awarded, as they were compensated by scrip issued by the Government, with the understanding that such scrip was to be exercised in the purchase of Crown lands in the neighbourhood of Auckland, to which place it was desirable—so soon as the capital was founded—to draw a population. The lands thus paid for in scrip became Crown lands, and these, together with the surplus lands, have from time to time been disposed of by the Crown and settled on. The amount of scrip, &c., issued up to 1862 was over £109,000.

On the signing of the Treaty of Waitangi on the 6th February, 1840, the pre-emptive right of purchase from the Maoris was ceded to the Queen, and consequently private purchase ceased. This remained the law until the passing of "The Native Land Act, 1862," when the Crown relinquished its right of pre-emption, whilst at the same time the purchase of Native lands for the Crown did not abate, but continued side by side with the private purchases up to the passing of "The Native Land Court Act, 1894."

From time to time since 1840 various sums were appropriated by Government or by Parliament for the acquisition of a Crown estate. Up to the date of passing of "The Native Land Act, 1862," these operations were conducted by officers of the Government specially appointed, who, from a knowledge of the Maoris, their customs and disposition, were successful in securing large areas of land for settlement. It must be conceded that their operations as a whole were successful, and that the number of disputed cases arising out of their labours was exceedingly small. The Waitara purchase is, however, here excluded, for there were reasons of general policy affecting that sale which did not prevail in other cases. This purchase was the ostensible cause of the war of 1860 and following years, but the motives which led to it were far deeper than the mere purchase of a few acres—there was a great principle at stake.

The difference effected in the mode of purchase by "The Native Land Act, 1862," was this: Previously, the title of the Maoris who were to receive payment for the land was decided by the Land Purchase officers; but the Act quoted set up a Court, presided over by able Judges, who determined the titles, which were afterwards registered in a special Court. Purchases have since been effected with the registered owners.

It is difficult to obtain figures showing the actual area acquired by the Crown from the Maoris up to 1870, but in round numbers it was 6,000,000 acres in the North Island; whilst the whole of the Middle Island, with the exception of reserves for the original Native owners, was acquired prior to the passing of "The Native Land Act, 1862." Stewart Island was purchased from the Native owners by deed dated 29th June, 1864.

The Native rebellion of 1860–69 brought Native-land purchases, for the time being, practically to a standstill.

The Immigration and Public Works Acts of 1870 and 1873 appropriated £200,000 and £500,000, respectively, for the purchase of lands in the North Island; and these amounts have, up to the 31st of March, 1899, been augmented by further annual appropriations from the public funds and other loan-moneys, covering altogether a total expenditure since 1870 of £1,904,257, with the following results: Area finally acquired in the North Island from Natives, from 1870 to 31st March, 1899, 7,504,553 acres. Area under negotiation in the North Island on 31st March, 1899, 783,963 acres; interests therein finally acquired, 274,009 acres.

DIGEST OF THE LAND-LAWS.

Administration.

The Crown lands are administered, under the authority of "The Land Act, 1892," by the Hon. the Minister of Lands at Wellington. For convenience the colony is divided into ten land districts, each being under the local direction of a Commissioner and a Land Board. The Commissioner's office is known as the principal land office, and in some of the larger districts there are one or more sub-offices. It is with these land offices the selector has to transact all business, from the first consultation of the maps to the final receipt of the Crown title.

Land Districts and Principal Land Offices.

The names of the land districts and of the towns where each principal office is situated are, beginning with the most northerly and taking them geographically, as under:—

Land District.	Town where Principal Land Office is situated.	Land District.	Town where Principal Land Office is situated.
Auckland	Auckland.	Marlborough	Blenheim.
Taranaki	New Plymouth.	Westland	Hokitika.
Hawke's Bay	Napier.	Canterbury	Christchurch.
Wellington	Wellington.	Otago	Dunedin.
Nelson	Nelson.	Southland	Invercargill.

Classification of Lands, &c.

Crown lands are divided into three classes:—

(1.) Town and village lands, the upset prices of which are, respectively, not less than £20 and £3 per acre; such lands are sold by auction:

(2.) Suburban lands, the upset price of which may not be less than £2 an acre; these lands are also sold at auction:

(3.) Rural lands, which may be disposed of at not less than £1 per acre for first-class, and 5s. an acre for second-class lands; such lands may be sold or leased by auction, or sold or leased on application.

No rural section may be larger than 640 acres in extent if first-class land, or 2,000 acres if second-class land, whether offered by auction or application. No person can select more than 640 acres of first-class or 2,000 acres of second-class land, including therein any land which he then holds. Pastoral runs are limited to areas which will carry 20,000 sheep or 4,000 cattle. No person can select more than one run.

Mode of acquiring Crown Lands.

Crown lands may be acquired as follows:—

(1.) By auction, after survey, in which case one-fifth of the price is paid down at the time of sale, the balance within thirty days:

(2.) By application, after the lands have been notified as open for selection, in which case the applicant fills up a form (to be obtained at any of the Land Offices) and makes the declaration and deposit required by the particular system he wishes to select under.

All applications, whether for surveyed or unsurveyed lands, are deemed to be simultaneous if made on the same day, and, if there be more than one applicant for the same land, the right of selection is determined by ballot.

Lands thrown open for application may be either surveyed or unsurveyed, and those not selected the first day remain open.

The Optional System of Selection.

Lands for selection are notified as open for application on and after a stated day, and, *at the option of the applicant,* may be obtained on any of the three following tenures: (*a*) Cash; (*b*) Occupation with the right of purchase; (*c*) Lease in perpetuity.

(*a.*) *Cash.*

If the land is surveyed, one-fifth of the price is to be paid down at the time of application, and the balance within thirty days; or, if the land is not completely surveyed, the survey-fee is paid on application, and goes towards the purchase of the land; the balance must be paid within thirty days of notice that the survey is completed.

A certificate of occupation will issue to the purchaser on final payment, which will be exchanged for a Crown title so soon as the Board is satisfied that the improvements mentioned on the next page have been completed.

(*b.*) *Occupation with Right of Purchase.*

Lands selected on this tenure are held under a license for twenty-five years. At any time subsequent to the first ten years, and after having resided and made the improvements hereinafter described, the licensee can, on payment of the upset price of the land, acquire the freehold. If the land be not purchased, the license may be exchanged for a lease in perpetuity.

The rent is 5 per cent. on the cash price of the land; a half-year's rent has to be paid in with the application, if surveyed land, which represents the half-year's rent due in advance on the 1st day of January or July following the selection. If the land is unsurveyed, the cost of survey is to be deposited, and is credited to the selector as so much rent paid in advance, counted from the 1st day of January or July following thirty days' notice of the completion of survey.

Residence and improvement of the land are compulsory, as hereinafter described.

(*c.*) *Leases in Perpetuity.*

Lands selected on this tenure are leased for 999 years, subject to the conditions of residence and improvements described below. The rental is 4 per cent. on the cash price of the land, and applications are dealt with in the same way as under the previous tenure (*b*), but there is at no time a right of purchase.

Two or more persons may make a joint application to hold as tenants in common under either of the two last-named tenures.

Residence and Improvements.

Under the two last-mentioned tenures, the conditions as to residence and improvements are:—

RESIDENCE—

(1.) Must commence on bush or swamp lands within four years, and in open or partly open land within one year, from the date of selection:

(2.) Must be continuous for six years on bush or swamp land, and for seven years on open or partly open land, on lands occupied with a right of purchase:

(3.) Must be continuous for a term of ten years on lease-in-perpetuity lands.

The Board has power to dispense with residence in certain cases, such as where the selector is residing on adjacent lands, or is a youth or unmarried woman living with parents, and in a few other cases.

RESIDENCE implies the erection of a habitable house to be approved of by the Board.

IMPROVEMENTS which must be made are as follows:—

(1.) Cash-tenure lands must be improved within seven years to an amount of £1 an acre for first-class land, and 10s. an acre for second-class land.

(2.) Lands held on lease with right of purchase, or on lease in perpetuity, must be improved to an amount equal to 10 per cent. of the value of the land within one year from the date of the license or lease; within two years must be improved to the amount of another 10 per cent.; within six years must be improved to the value of another 10 per cent., making 30 per cent. in all within the six years. In addition to the above, the land must be further improved to an amount of £1 an acre for first-class land, and on second-class land to an amount equal to the net price of the land, but not more than 10s. an acre.

Improvements may consist of reclamation from swamps, clearing of bush, planting with trees or hedges, cultivation of gardens, fencing, draining, making roads, wells, water-tanks, water-races, sheep-dips, embankments or protective-works, or in any way improving the character or fertility of the soil; or the erection of any building, &c.; and *cultivation* includes the clearing of land for cropping, or clearing and ploughing for laying down with artificial grasses, &c.

Special-settlement Associations.

Under the existing regulations any number of persons, not less than twelve, may apply for a block of land of not less than 1,000 acres or more than 11,000 acres in extent, but the number of members must be such that there shall be one for every two hundred acres in the block, and no one can hold more than 320 acres, except in swamp lands, where the area may be 500 acres.

The capital value of lands within a special settlement is fixed after survey by special valuation, but may not be less than 10s. an acre; the rental is not less than 4 per cent. on the capital value, and the tenure is a lease in perpetuity.

Residence, occupation, and improvements are generally the same as already described, and applications have to be made in manner prescribed by regulations.

Applicants should apply to a Commissioner for a copy of the regulations, as they are liable to change at any time.

Improved-farm Settlements.

Special regulations are in force for this class of settlement, which should be applied for, but briefly the terms are as follow: Those who form settlements under these provisions are selected from the applicants by the Commissioner of Crown Lands, preference being given to married men. The areas of the farms may vary from 10 acres to 200 acres, according to locality; no settler can select more than one farm. The land is leased for 999 years at a rental of 4 per cent. on the capital value, to which is added 5 per cent. on the amount advanced by Government for clearing, grassing, &c. The rates allowed for felling are those current in the district, but must not exceed £1 15s. per acre. Advances to cover cost of sowing with grass will be made, if required, likewise not more than £10 towards building a house or erecting fencing. Not more than 100 acres of felling will, however, be paid for. As a rule, the settlers can get employment on the road-works in the neighbourhood, but Government does not guarantee this.

Residence for the first ten years is compulsory, and improvements must be made in terms of Part III. of "The Land Act, 1892." (See *ante.*)

Village Settlements.

Village settlements are disposed of under regulations made from time to time by the Governor, but the main features are as follow:—

Such settlements may be divided into:—

(1.) Village allotments not exceeding one acre each, which are disposed of either by auction among the applicants or by application, as already described, with option of tenure, the cash price being not less than £3 per allotment:

(2.) Homestead allotments not exceeding 100 acres each, which are leased in perpetuity at a 4-per cent. rental on a capital value of not less than 10s. per acre.

Residence, improvements, and applications are the same as already described. The leases are exempt from liability to be seized or sold for debt or bankruptcy.

The Colonial Treasurer is empowered in certain cases to advance small sums for the purpose of enabling selectors to profitably occupy their allotments.

Small Grazing-runs.

Small grazing-runs are divided into two classes: First-class, not exceeding 5,000 acres; second-class, not exceeding 20,000 acres in area. The rental in both cases is not less than 2½ per cent. on the capital value per acre, but such capital value cannot be less than 5s. per acre. Small grazing-runs are leased for terms of twenty-one years, with right of renewal for other twenty-one years, at a rent of 2½ per cent. on the then value of the land. The runs are declared open for selection, and applications and declarations on the forms provided have to be filled in and left at the Land Office, together with the deposit of one half-year's rent, which represents that due on the 1st day of March or September following the selection.

No holder of a pastoral run, and no holder of freehold or leasehold land of any kind whatever, over 1,000 acres in area, exclusive of the small grazing-run applied for, may be a selector under this system; and only one small grazing-run can be held by any one person.

The lease entitles the holder to the grazing rights, and to the cultivation of any part of the run, and to the reservation of 150 acres round his homestead through which no road may be taken; but the runs are subject to the mining laws.

Residence is compulsory, if bush or swamp land, within three years; if open, within one year; and must be continuous to the end of the term, but may in a few cases be relaxed. Improvements necessary are as follow: Within the first year, to the amount of one year's rent; within the second year, to another year's rent; and, within six years, to the value of two other years' rent: making in all a sum equal to four years' rental, which must be expended within six years. In addition to these improvements, bush-covered first-class runs must be improved to an amount of 10s. an acre, and second-class bush-clad runs to an amount of 5s. an acre.

These runs may be divided, after three years' compliance with the conditions, amongst the members of the selector's family.

Pastoral Runs.

Pastoral country is let by auction for varying terms not exceeding twenty-one years; and, excepting in extraordinary circumstances, runs must not be of a greater extent than will carry 20,000 sheep or 4,000 head of cattle. Runs are classified from time to time by special Commissioners into: (1) Pastoral lands, which are suitable only for depasturing more than 5,000 sheep; (2) pastoral-agricultural lands, suitable for subdivision into areas of under 5,000 acres, which may be either let as pastoral runs, generally for short terms, or cut up for settlement in some other form. Leases of pastoral lands may not be resumed; leases of pastoral-agricultural lands may be resumed at any time after twelve months' notice, without compensation.

No one can hold more than one run; but, in case of any one holding a run of a carrying-capacity less than 10,000 sheep, he may take up additional country up to that limit.

Runs are offered at auction from time to time, and half a year's rent has to be paid down at the time of sale, being the amount due in advance on the 1st day of March or September following the sale, and the purchaser has to make the declaration required by the Act. All leases begin on the 1st day of March, and they entitle the holder to the grazing rights, but not to the soil, timber, or minerals; and the lease terminates over any part of the run which may be leased for some other purpose, purchased, or reserved. The tenant has to prevent the burning of timber or bush; in open country to prevent the growth of gorse, broom, or sweetbriar; and to destroy the rabbits on his run. With the consent of the Land Board, the interest in a run may be transferred or mortgaged, but power of sale under a mortgage must be exercised within two years.

In case it is determined again to lease any run on expiry of the lease, the new lease must be offered by auction twelve months before the end of the term, and if, on leasing, it shall be purchased by some one other than the previous lessee, valuation for improvements, to be made by an appraiser, shall be paid by the incoming tenant, but to a value not greater than three times the annual rent—excepting in the case of a rabbit-proof fence, which is to be valued separately. If the run is not again leased, the value of rabbit-proof fencing is paid by the Crown, but the tenant has no claim against the Crown beyond the value of the rabbit-proof fence; he may, however, within three months of sale, remove fences, buildings, &c. Runs may also be divided with the approval of the Board.

Survey Charges on Unsurveyed Lands.

The following is the scale of charges for surveys of unsurveyed lands:—

Not exceeding 30 acres, £6.
Exceeding 30 and up to 50 acres, 3s. 6d. per acre, but not less than £6.
Exceeding 50 and up to 100 acres, 3s. per acre, but not less than £8 15s.
Exceeding 100 and up to 200 acres, 2s. 6d. per acre, but not less than £15.
Exceeding 200 and up to 300 acres, 2s. per acre, but not less than £25.
Exceeding 300 and up to 500 acres, 1s. 8d. per acre, but not less than £30.
Exceeding 500 and up to 1,000 acres, 1s. 4d. per acre, but not less than £41 10s.
Exceeding 1,000 and up to 2,000 acres, 1s. per acre, but not less than £66 10s.

For the survey of any area of rural land, being open land, the scale of charges shall be two-thirds the foregoing rates.

The Chief Surveyor may vary the above charges by substituting a rate per mile or per day for such work as may not come under the foregoing scale.

ADVANCES TO SETTLERS.

THE Government Advances to Settlers Act was a Government policy measure in the legislation of 1894. It was designed to afford relief to a numerous class of colonists who were struggling under the burden of high rates of interest and heavy legal expenses of mortgages. These were established when prices of agricultural produce were high and profits large; and, so long as business continued to be prosperous, they attracted but little, if any, attention. For several years preceding 1894 commerce and agriculture had suffered from world-wide depression; settlers were becoming embarrassed in their circumstances; and the high rates of interest still charged were felt to be a burden on the industry of the people not easily borne, and a hindrance to the settlement and development of the farming lands of the colony. In these circumstances the Government brought in the Government Advances to Settlers Act. It was passed towards the close of the session of 1894, and immediately came into operation, with results which have proved beneficial to the farming community. A general decline in the rates of interest at once set in, and it is not too much to claim that the Act has been instrumental in lowering these to a considerable extent on several millions of money invested on mortgage of the farming lands of the colony. This result, while it may have diminished the incomes of a few persons resident within the colony, has benefited thousands of deserving settlers and led to large areas of land being brought under cultivation that, but for the Advances to Settlers Act, would still be in their natural state.

The Act authorised the raising of three million pounds sterling within two years, in sums of a million and a-half per annum, at a rate of interest not higher than 4 per cent. In May, 1895, tenders were invited in London for £1,500,000 of 3-per-cent. inscribed stock of the Government of New Zealand, and applications were received for £5,960,400 at prices ranging from £100 to £90. The million and a-half was placed at an average price of £94 8s. 9d.

An amending Act, passed in 1895, extended the time for raising the residue of the three millions to three years from the coming into operation of the amending Act. In 1898 this term was extended for a further period of three years. £500,000 of the second half of the loan has been raised on satisfactory terms.

To carry out the objects of the Act, an office was established called the "Government Advances to Settlers Office"; at the same time a General Board was constituted to co-operate with and assist the Superintendent, the title by which the chief administrative officer is known.

The business of the Advances to Settlers Office is the lending of money on the security of first mortgages of land, provided the lands are occupied for farming, dairying, or market-gardening purposes.

Urban and suburban lands used for residential or manufacturing purposes are excluded from the scope of the Act. The titles which are eligible for advances are classified as follow:—

(1.) Freehold land held in fee-simple under "The Land Transfer Act, 1885," or freehold land held in fee-simple the title to which is registered under "The Deeds Registration Act, 1868."

(2.) Crown land held on perpetual lease under "The Land Act, 1885."

(3.) Crown land held under Parts III. and IV. of "The Land Act, 1892," including land held under occupation-with-right-of-purchase tenure.

(4.) Crown land held on lease as a small grazing-run under "The Land Act, 1885," or under "The Land Act, 1892."

(5.) Crown land held on agricultural lease under "The Mining Act, 1891."

(6.) Crown land held on lease (not being for mining purposes) under "The Westland and Nelson Coalfields Administration Act, 1877."

(7.) Native land held on lease under "The West Coast Settlement Reserves Act, 1892"; or

(8.) Land held on lease under "The Westland and Nelson Native Reserves Act, 1887."

(9.) Land held under "The Thermal-Springs Districts Act, 1881."

(10.) Educational and other reserves which are subject to the provisions of "The Land Act 1877 Amendment Act, 1882," by virtue of Proclamation made under section 50 thereof, or "The Land Act, 1885," by virtue of Proclamation made under section 237 thereof, or "The Land Act, 1892," by virtue of Proclamation made under section 243 thereof, and are held on perpetual lease or lease in perpetuity, or on deferred-payment or small grazing-run systems.

(11.) Crown land held by license on the deferred-payment system under Part III. of "The Land Act, 1885."

(12.) Land held under lease from a leasing authority, as defined by "The Public Bodies' Powers Act, 1887," and providing for the payment by the incoming tenant of valuation for improvements made upon the land, whether by the lessee named in such lease or any former lessee or tenant.

Of these classes, Nos. 10, 11, and 12 were added by amending Acts passed in 1895 and 1896.

Applicants for loans are required to apply on a form prescribed by regulation under the Act, and to pay a valuation-fee in accordance with the following scale:—

	£	s.	d.
On an application for a loan not exceeding £100	0	10	6
Exceeding £100 but not exceeding £250	1	1	0
Exceeding £250 but not exceeding £500	1	11	6
Exceeding £500 but not exceeding £3,000	2	2	0

Valuation reports on the securities offered are made on behalf of the Department by expert land-valuers; and these reports, together with the corresponding valuations appearing in the district valuation-rolls, prepared in accordance with the provisions of "The Government Valuation of Land Act, 1896," and reports from the Commissioners of Crown Lands in the cases of Crown leaseholds, are considered by the General Board. Board meetings are held weekly, or as occasion requires, and the Superintendent is bound by the resolutions of the Board. A resolution is taken with regard to every application placed before the General Board, so that on the Board rests the responsibility of granting loans or of refusing to grant them.

Some applicants offer securities which are obviously not eligible; and in that event the valuation-fees paid are returned, the securities are not reported on, and the applications do not go before the Board.

The Act of 1894 contemplated loans of one class only—namely, loans on mortgages repayable by 73 half-yearly instalments, subject, however, to provisions for paying off the loan at any time—but the amending Act of 1896 added what are known as "fixed loans." Fixed loans are authorised to be made on freehold lands only, and may be for any term not exceeding ten years. They are repayable, without sinking fund, at the end of the term for which they are granted. They must not exceed in amount one-half of the estimated value of the security, and they bear interest, like instalment loans, at the rate of 5 per cent. per annum.

Under the instalment system the Board has power to advance up to 60 per cent. of the estimated realisable value of freehold securities, and up to 50 per cent. of the lessee's interest in the case of leasehold securities.

Loans must not be for a less amount than £25, nor a greater amount than £3,000. The maximum limit was £2,500 under the 1894 Act, but the amending Act of 1896 raised it to £3,000.

Instalment loans are repayable (principal and interest) in thirty-six and a half years, by half-yearly instalments. These instalments are calculated at the rate of 6 per cent. on the amount lent, and, excepting the last, they do not vary in amount. So much of each instalment as is required to pay 5 per cent. on the balance of principal owing at the time of payment is charged for interest, and the remainder of the instalment is applied to the reduction of the principal. As every payment made reduces the amount of principal owing, the charge for interest becomes less every six months, and an ever-increasing proportion of the instalment is available for paying off the debt.

As will be seen by the following table, a mortgagor under this system owes at the end of ten years £87 4s. 7d. for every £100 borrowed, after twenty years £66 5s. 10d., after thirty years £31 19s. 11d., and in thirty-six and a half years the loan is entirely repaid:—

TABLE OF PRESCRIBED HALF-YEARLY INSTALMENTS FOR EVERY ONE HUNDRED POUNDS OF THE LOAN.

Half-year.	Prescribed Half-yearly Instalment.	Apportioned thus:		Balance of Principal owing.
		On Account of Interest at 5 per Cent.	On Account of Principal.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1st	3 0 0	2 10 0	0 10 0	99 10 0
2nd	3 0 0	2 9 9	0 10 3	98 19 9
3rd	3 0 0	2 9 6	0 10 6	98 9 3
4th	3 0 0	2 9 3	0 10 9	97 18 6
5th	3 0 0	2 9 0	0 11 0	97 7 6
6th	3 0 0	2 8 8	0 11 4	96 16 2
7th	3 0 0	2 8 5	0 11 7	96 4 7
8th	3 0 0	2 8 1	0 11 11	95 12 8
9th	3 0 0	2 7 10	0 12 2	95 0 6
10th	3 0 0	2 7 6	0 12 6	94 8 0
11th	3 0 0	2 7 2	0 12 10	93 15 2
12th	3 0 0	2 6 11	0 13 1	93 2 1
13th	3 0 0	2 6 7	0 13 5	92 8 8
14th	3 0 0	2 6 3	0 13 9	91 14 11
15th	3 0 0	2 5 10	0 14 2	91 0 9
16th	3 0 0	2 5 6	0 14 6	90 6 3
17th	3 0 0	2 5 2	0 14 10	89 11 5
18th	3 0 0	2 4 9	0 15 3	88 16 2
19th	3 0 0	2 4 5	0 15 7	88 0 7
20th	3 0 0	2 4 0	0 16 0	87 4 7
21st	3 0 0	2 3 7	0 16 5	86 8 2
22nd	3 0 0	2 3 2	0 16 10	85 11 4
23rd	3 0 0	2 2 9	0 17 3	84 14 1
24th	3 0 0	2 2 4	0 17 8	83 16 5
25th	3 0 0	2 1 11	0 18 1	82 18 4
26th	3 0 0	2 1 6	0 18 6	81 19 10
27th	3 0 0	2 1 0	0 19 0	81 0 10
28th	3 0 0	2 0 6	0 19 6	80 1 4
29th	3 0 0	2 0 0	1 0 0	79 1 4
30th	3 0 0	1 19 6	1 0 6	78 0 10
31st	3 0 0	1 19 0	1 1 0	76 19 10
32nd	3 0 0	1 18 6	1 1 6	75 18 4
33rd	3 0 0	1 18 0	1 2 0	74 16 4
34th	3 0 0	1 17 5	1 2 7	73 13 9
35th	3 0 0	1 16 10	1 3 2	72 10 7
36th	3 0 0	1 16 3	1 3 9	71 6 10
37th	3 0 0	1 15 8	1 4 4	70 2 6
38th	3 0 0	1 15 1	1 4 11	68 17 7
39th	3 0 0	1 14 5	1 5 7	67 12 0
40th	3 0 0	1 13 10	1 6 2	66 5 10
41st	3 0 0	1 13 2	1 6 10	64 19 0
42nd	3 0 0	1 12 6	1 7 6	63 11 6
43rd	3 0 0	1 11 9	1 8 3	62 3 3
44th	3 0 0	1 11 1	1 8 11	60 14 4
45th	3 0 0	1 10 4	1 9 8	59 4 8
46th	3 0 0	1 9 7	1 10 5	57 14 3
47th	3 0 0	1 8 10	1 11 2	56 3 1
48th	3 0 0	1 8 1	1 11 11	54 11 2
49th	3 0 0	1 7 3	1 12 9	52 18 5
50th	3 0 0	1 6 6	1 13 6	51 4 11

TABLE OF PRESCRIBED HALF-YEARLY INSTALMENTS FOR EVERY ONE HUNDRED POUNDS OF THE LOAN—*continued.*

Half-year.	Prescribed Half-yearly Instalment.	Apportioned thus:		Balance of Principal owing.
		On Account of Interest at 5 per Cent.	On Account of Principal.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
51st	3 0 0	1 5 8	1 14 4	49 10 7
52nd	3 0 0	1 4 9	1 15 3	47 15 4
53rd	3 0 0	1 3 11	1 16 1	45 19 3
54th	3 0 0	1 3 0	1 17 0	44 2 3
55th	3 0 0	1 2 1	1 17 11	42 4 4
56th	3 0 0	1 1 1	1 18 11	40 5 5
57th	3 0 0	1 0 2	1 19 10	38 5 7
58th	3 0 0	0 19 2	2 0 10	36 4 9
59th	3 0 0	0 18 1	2 1 11	34 2 10
60th	3 0 0	0 17 1	2 2 11	31 19 11
61st	3 0 0	0 16 0	2 4 0	29 15 11
62nd	3 0 0	0 14 11	2 5 1	27 10 10
63rd	3 0 0	0 13 9	2 6 3	25 4 7
64th	3 0 0	0 12 7	2 7 5	22 17 2
65th	3 0 0	0 11 5	2 8 7	20 8 7
66th	3 0 0	0 10 3	2 9 9	17 18 10
67th	3 0 0	0 9 0	2 11 0	15 7 10
68th	3 0 0	0 7 8	2 12 4	12 15 6
69th	3 0 0	0 6 5	2 13 7	10 1 11
70th	3 0 0	0 5 1	2 14 11	7 7 0
71st	3 0 0	0 3 8	2 16 4	4 10 8
72nd	3 0 0	0 2 4	2 17 8	1 13 0
73rd	1 13 10	0 0 10	1 13 0	..

Instalment Mortgages.

Under the system of instalment mortgages borrowers *may pay off the whole balance of principal and interest owing at any time,* and obtain a discharge; or they may pay to the Superintendent in reduction of the mortgage debt any sum not less than £5 or a multiple of £5. Payments made in reduction of these loans are treated as deposits, bearing interest at 4 per cent., compounded annually. When deposits with accumulated interest amount to a sum equal to the unpaid balance of the loan, the mortgagor may obtain a discharge of the mortgage on payment of the prescribed release-fee. So long as deposits, with interest added, amount to less than the balance of principal owing, instalments on the original amount of the loan continue to be payable.

Fixed Loans.

In the case of fixed loans, payments of £5, or a multiple of £5, may be made in reduction of the loans at the due date of any half-yearly payment of interest, and thenceforth interest is payable only on so much of the loan as remains unpaid. The entire loan, or the balance owing, *may be paid off at any time*, with interest added to the date of payment.

Costs, Fees, and other Provisions.

The following is the scale of costs and fees for mortgages:—

Mortgages under "The Land Transfer Act, 1895."

Law-costs of preparing, or perusing, and of registering mortgage (to be deducted from the advance),—

	£	s.	d.
If advance be not exceeding £500	0	10	6
Exceeding £500, but not exceeding £1,000	1	1	0
Exceeding £1,000, but not exceeding £3,000	1	11	6

With cash disbursements, which are the same in every case, namely,—

Mortgage form	2s.	
Search-fee	2s.	With an additional 2s. for every certificate of title after the first.
Registration	10s.	

Costs and fees for discharge of mortgage,—

Release fee	5s.

Mortgages under "The Deeds Registration Act, 1868."

Costs of preparing, or perusing, and of registering mortgage, including disbursements (to be deducted from the advance),—

	£	s.	d.
If advance be not exceeding £500	2	10	0
For every additional £500	0	15	0
Costs of discharge, including registration fees	1	1	0

Solicitors are entitled to charge moderately for any services mortgagors may require over and above those for which the above scale fixes the costs—such services, for example, as clearing encumbered titles, obtaining and registering titles, &c.

By arrangements made with the Post Office, mortgagors are enabled to pay their instalments and interest to the credit of the Superintendent at any money-order office throughout the colony, and free of all costs for remitting the money to Wellington. This is an arrangement at once convenient and economical for the large number of persons scattered all over the colony who have financial dealings with the Advances to Settlers Office. Loans may also be repaid in full through the Post Office.

The officials of the Government Advances to Settlers Office are bound by declaration to observe secrecy respecting applications for advances, and are forbidden to give any information respecting the business of the Department except to officers appointed to assist in carrying out the provisions of the Act.

The Act provides penalties for persons employed in the business of the Advances to Settlers Office taking any fee or reward from an applicant for a loan under the Act; for persons acting as valuers of land in which they have a pecuniary interest; and for persons who may attempt to bribe any one employed under the Act. It should be understood that no commission, charge, or procuration fee is payable in connection with an application for a loan.

The first meeting of the General Board for the purpose of considering applications for loans was held on 23rd February, 1895; and up to the 31st March, 1899, the Board had authorised 7,050 advances, amounting to £2,073,425. The total amount applied for in the 7,050 applications granted in full and partially was £2,400,135. 828 applicants declined the partial grants offered to them, amounting to £374,280; so that the net advances authorised at 31st March, 1899, numbered 6,222, and amounted to £1,699,145. The security for the net authorised advances was valued at £3,759,399. The number of applications received up to 31st March, 1899, was 9,032, for an aggregate amount of £2,959,528. 63 per cent. of the total amount applied for was wanted for the purpose of paying off existing mortgages at rates of interest higher than 5 per cent.

THE LAND-TAX AND INCOME-TAX.

THE LAND-TAX.

At the time of the repeal of the Property Assessment Act in 1891 it was contended by many that the substitution of a land-tax which exempted from taxation all the improvements on the land, and of an income-tax which exempted all private incomes up to £300 a year, would lead to such a shrinkage of revenue as to render the experiment exceedingly risky. After several collections of land-tax upon the unimproved value only, and an income-tax with the above exemption, it can now, however, be fairly claimed that such a contention has not been realised, and that the revenue, notwithstanding the many adverse circumstances attending the introduction of a new system of taxation, has been fully maintained.

The yield of land-tax for 1898–99 was, in round figures, £298,000, of which about £215,000 represents ordinary tax; the balance, £83,000, being graduated tax, and the special tax on absentee landowners. For the preceding year the total amount collected was nearly £30,000 less, the increase being due to a new valuation.

For the purposes of the "ordinary" land-tax, owners are allowed under the Act to deduct from the total unimproved value of their land the amount of any registered mortgage thereon, and the mortgagees are required to make a return of all their mortgages. In the case of uncompleted sales, where the title has not been transferred the amount of unpaid purchase-money is treated as a mortgage—that is, it may be deducted by the purchaser and must be included in the return made by the vendor.

An owner of land the unimproved value of which, together with mortgages owing to him, does not exceed £1,500 (after deducting mortgages owing by him) is allowed an exemption of £500, but where such value exceeds £1,500 the exemption diminishes by £1 for every £2 that such value increases, so that no exemption is allowable when £2,500 is reached.

The Act contains a provision that in cases where the income from any land or mortgages is less than £200 per annum, and the owner is incapacitated by age or infirmity from supplementing such income, a further exemption may be allowed by the Commissioner upon his being satisfied that the payment of the tax would entail hardship on such owner. This discretionary power has been exercised in a considerable number of instances, especially in the case of widows and orphans with small means, and much hardship prevented.

All mortgages are assessed at their full nominal value, except where it is satisfactorily shown that owing to depreciation of the security or other cause such value has been diminished. In the case of mixed mortgages—that is, mortgages which are secured on both real and personal property—the amount of the mortgage chargeable with land-tax is taken to be the assessed value of the land included in the security, the interest derived from the balance of mortgage being liable to income-tax.

It will be readily seen that the deductions and exemptions which have been referred to materially reduce the number of taxpayers as compared with the number of land-owners, the latter being upwards of 90,000, whilst the former only number about 13,000.

If the unimproved value of land in any assessment amounts to £5,000 or over, graduated tax is payable thereon according to the scale given on another page. Mortgages, however, are not chargeable with the graduated tax; but, on the other hand, no deduction is allowed in an assessment for graduated tax in respect of any mortgage owing on the land.

Twenty per cent. additional on the amount of the graduated tax is levied where the owners have been resident out of the colony for a period of three years or more prior to the date of the passing of the annual Tax Act.

Native lands which are occupied by Europeans are subject to the ordinary tax, it being considered that as such lands have benefited equally with the lands of Europeans by the expenditure of public money, they should bear some proportion of the taxation. But, recognising that in some instances, where the interests of the Native owners are small, the collection of the tax might possibly entail some hardship, the Legislature decided that only half the usual rate should be collected on such lands. Graduated tax is not chargeable on Native land.

THE INCOME-TAX.

Both the number of income-tax payers and the amount of tax received may appear at first sight smaller than might be expected from the population of New Zealand, but it should be remembered that incomes from land and mortgages are exempt, the unimproved value of the former and the capital value of the latter being chargeable with land-tax in the manner hereinbefore explained. The statutory exemption of £300, *plus* life-insurance premiums up to £50, renders a very large number of employés and small traders exempt from the tax. Companies pay the tax on profits, and dividends are not returnable by their shareholders. These circumstances will account for the smallness of the number subject to income-tax and, to a certain extent, the comparatively inconsiderable contribution to the revenue.

Objections to income assessments are heard in private before the Stipendiary Magistrate.

It would be impossible to indicate the number and variety of questions which arise daily in connection with income assessments, much less to give any intelligent account of how they are dealt with. The department has endeavoured to lay down certain definite rules for its guidance in the greater number of cases, and a memorandum embodying these has been circulated among all who have been called upon to make returns. It is, however, much too lengthy to introduce here.

Amongst the questions to which special attention has been given is that of the depreciation of plant and machinery, and the amount to be allowed as a deduction under this heading. The Amendment Act of 1894 admitted, amongst deductions, an allowance for depreciation of plant and machinery over and above what might be claimed as repairs and renewals. The allowance was, by law, fixed at "what might be considered just by the Commissioner," but the Chief Inspector of Machinery is, in this matter, the expert adviser of the department, and he fixes the rates to be allowed on the different classes of machinery. There were naturally some differences of opinion between owners of machinery and the department, but only in the case of steam-vessels has the Inspector found it necessary to alter the scale first laid down. The rule formulated for the Inspector's guidance was as follows:—

An allowance to be made of such an amount (over and above what is expended in renewals and repairs) as will equal the annual loss of profit-earning power.

This is not intended to provide for the loss of capital invested, but simply represents the annual loss through wear and tear (as affecting income-earning capacity), other than that which can be made good by repairs.

Obsolete machinery is also allowed for when the machinery has been actually discarded; and here the amount to be allowed must bear the same proportion to the whole loss as the time the tax has been in operation bears to the life of the machine. An engine discarded in the third year of the tax—the life of the engine being, say, twenty years—would be allowed for to three-twentieths of the loss incurred, less the annual amounts that had been allowed by the department for depreciation for those three years. Machinery superseded by something better, but kept in reserve in case of a breakdown, would not be allowed for.

It should be mentioned here that the statutory exemption of £300 is not allowed to absentees, whether firms or individuals, nor to companies.

Regulations have been issued for levying income-tax on the profits earned by shipowners whose head-quarters are beyond the colony. The plan adopted is to require a return of the outward freight and passenger lists, and to levy tax at the rate of one shilling in the pound upon 5 per cent. of the total returned.

YIELD OF TAX.

For 1895–96 the land-tax yielded £271,000, and the income-tax £94,000. For 1896–97 the yield of the land-tax was £272,000, and the income-tax £105,000. For 1897–98 the land-tax yielded £269,000, and the income-tax £115,000. For 1898–99 the land-tax yielded £298,000, and the income-tax £115,500.

RATES OF TAX.

The rates of tax at present are as follow: The ordinary land-tax is 1d. in the pound; the graduated tax commences at £5,000, at ⅛d. in the pound on the unimproved value, and rises to 2d. where the unimproved value of an owner's land is £210,000, or exceeds that sum. The ordinary tax on Native land occupied by Europeans is ½d. in the pound. For taxpayers other than companies the rate of income-tax is 6d. in the pound on the first taxable £1,000—that is, after deducting the £300 exemption—and 1s. in the pound on any excess over £1,000. A person having an annual income of £1,900 would be thus taxed: £300 would be exempted; £1,000 would pay 6d. in the pound; and the remaining £600, 1s. in the pound: making a total of £55 a year. The tax on an income of £400 would be at 6d. on £100, equal to £2 10s. Income-tax is payable by companies, at the uniform rate of 1s. in the pound.

The schedule of rates of graduated land-tax is as follows:—

Where the value is £5,000 and is less than £10,000, one-eighth of a penny in the pound sterling.
Where the value is £10,000 and is less than £15,000, two-eighths of a penny in the pound sterling.
Where the value is £15,000 and is less than £20,000, three-eighths of a penny in the pound sterling.
Where the value is £20,000 and is less than £25,000, four-eighths of a penny in the pound sterling.
Where the value is £25,000 and is less than £30,000, five-eighths of a penny in the pound sterling.
Where the value is £30,000 and is less than £40,000, six-eighths of a penny in the pound sterling.
Where the value is £40,000 and is less than £50,000, seven-eighths of a penny in the pound sterling.
Where the value is £50,000 and is less than £70,000, one penny in the pound sterling.
Where the value is £70,000 and is less than £90,000, one penny and one eighth of a penny in the pound sterling.
Where the value is £90,000 and is less than £110,000, one penny and two-eighths of a penny in the pound sterling.
Where the value is £110,000 and is less than £130,000, one penny and three-eighths of a penny in the pound sterling.

Where the value is £130,000 and is less than £150,000, one penny and four-eighths of a penny in the pound sterling.

Where the value is £150,000 and is less than £170,000, one penny and five-eighths of a penny in the pound sterling.

Where the value is £170,000 and is less than £190,000, one penny and six-eighths of a penny in the pound sterling.

Where the value is £190,000 and is less than £210,000, one penny and seven-eighths of a penny in the pound sterling.

Where the value is £210,000 or exceeds that sum, twopence in the pound sterling.

THE GOVERNMENT VALUATION OF LAND ACT.

During the session of 1896 the Government Valuation of Land Act was passed, providing for the periodical valuation of all landed properties in the colony. For the purposes of the Act it is provided that the colony shall be divided into special districts.

The first valuation under the Act has been completed. The purposes for which the valuations are to be used are: Land-tax, local rates (in cases where rates are levied on the capital or on the unimproved value), stamp duties, and duties under "The Deceased Persons' Estates Duties Act, 1881"; for advances and investments on mortgage of land made by the Post Office, Government Insurance Department, Public Trust Office, Government Advances to Settlers Office, and the Commissioners of the Public Debts Sinking Funds. The valuation will also be used for the guidance of the Government in transactions under "The Land for Settlements Act, 1894," and "The Public Works Act, 1894."

Valuations will be supplied by the department on payment of the prescribed fee.

The general valuation-roll continues in force until a fresh roll is made, but whilst in force it may be altered and amended from time to time. The rolls for rating purposes are supplied to local bodies by the Valuer-General on the request of the local authority. The aim is to insure a standard valuation for taxation, local rating, and loan purposes.

Owners and occupiers dissatisfied with their valuations have the right of objection, the procedure being that laid down by "The Rating Act, 1894," and the regulations under "The Government Valuation of Land Act, 1896."

The cost of making the valuation is divided proportionally between the departments mostly using it and the local authorities, while separate fees are provided for by regulation for supplying individual valuations to persons requiring them.

During the year 1898–99 the operations of the department were confined to rectifying erroneous valuations, and keeping the rolls correct and up to date in accordance with the statute.

RATING ON UNIMPROVED VALUE OF LAND.

In August, 1896, an Act was passed by the General Assembly termed "The Rating on Unimproved Value Act, 1896," for the purpose of affording an opportunity to local bodies of adopting the principle of rating which is expressed in the title of the measure. It is entirely at the option of the bodies to adopt the system, and provision is made for a return to the old system of rating, if desired, after three years' experience of the new one. Under the interpretation clause the term "gross value" means the capital value of land with all its improvements, as assessed by the local authority of the district, the unimproved value of which is to be rateable; and the "unimproved value" is the gross value less that of improvements thereon. "'Improvements' includes water-races, whether constructed by loan or otherwise, houses and buildings, fencing, planting, draining, clearing from timber, scrub, or fern, laying down in grass or pasture, and any other improvements whatsoever on land, in so far as the benefit thereof is unexhausted at the time of valuation, but does not include reclaiming of land from the sea." The Act provides that a proportion of the ratepayers on the roll, varying from 25 per cent. where the total number does not exceed 100, to 15 per cent. where the number exceeds 300, may by demand in writing, delivered to the chairman of the district, require that a proposal to rate property on the basis of the unimproved value may be submitted to the ratepayers, whose votes shall be taken between twenty-one and twenty-eight days after delivery of the demand. The poll is to be taken in the same manner as in case of a proposal to raise a loan in the district under "The Local Bodies' Loans Act, 1886."

A minimum number of one-third of the ratepayers must vote, and a majority of votes carries the proposal.

A rescinding proposal can be carried at a poll by the same means as one for adoption, but not until after three years have elapsed, and, *vice versâ*, rejection of a proposal bars its being again brought forward for a similar period.

In the valuation-roll to be prepared, the gross value, the value of improvements, and the unimproved value of rateable property must all be set forth. Provision is made for adjustment of rating powers given under previous Acts to the new Act by fixing equivalents. Thus a rate of 1s. in the pound on the annual value under former Acts is to be considered equal to ¾d. in the pound on the gross value.

The adjustments are to be made so that the rates on the unimproved value shall be such as to produce as much as, but not more than, the rates under "The Rating Act, 1894." For instance, supposing a local authority has a rating power up to ¾d. in the pound on the gross (or capital) value, then it can levy any rate in the pound on the unimproved value of land in its district *so long as the producing capacity of such rate is not greater than would be the producing capacity of a ¾d. rate on the gross value of the district.* When a fixed rate, under the older system of rating, is security for a loan, the Controller and Auditor General is given power to interfere and fix the new rate himself if of opinion that the new rate on the unimproved value does not afford equally good security to the one to be given up.

The operation of the Act does not apply to water, gas, electric light, sewage, or hospital and charitable aid rates.

Up to the present time (15th May, 1899) the number of local bodies that have elected to take advantage of the Act is 12. Particulars respecting these cases are subjoined:—

"RATING ON UNIMPROVED VALUE ACT, 1896."

Results of Polls.

Cheviot County	Carried.
Greymouth Borough	Carried.
Hokianga County	Carried.
Hunua Road District	Carried.
Inangahua County	Carried.
Invercargill Borough	Rejected.
[illegible] Borough	Carried.
Melrose Borough	Carried.
Normanby Town District	Carried.
Palmerston North Borough	Carried.
Pahiatua Borough	Carried.
Pahiatua County	Rejected.
Petone Borough	Rejected.
Picton Borough	Rejected.
[illegible] County	Rejected.
[illegible] County	Rejected.
[illegible] Borough	Rejected.
[illegible]	Rejected.
[illegible] Road District	Carried.
[illegible] ..	Carried.
[illegible] Borough ..	Rejected.
[illegible] Borough ..	Carried.
[illegible] Borough ..	Rejected.

[illegible]	For.	Against.	Informal.
[illegible]	[illegible]	[illegible]	[illegible]
[illegible] Borough	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible] County	[illegible]	[illegible]	[illegible]
[illegible] Borough	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible] Borough	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible] Borough	[illegible]	[illegible]	[illegible]
[illegible] Borough	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

"THE MUNICIPAL FRANCHISE REFORM ACT, 1898."

A SHORT account of the leading features of this measure is to be found on page 195, in the section relating to the local bodies in the colony.

OLD-AGE PENSIONS.

IN 1898 a Bill, introduced into Parliament by the Right Hon. R. J. Seddon, Premier, became law,[*] which provided for the payment of an old-age pension out of the Consolidated Fund (revenue of the General Government) to persons duly qualified, without contribution by the beneficiaries. The solution of a problem still unsolved in older countries has been thus attempted in New Zealand. The Act, however, only provides for payments out of revenue, for the purposes of the pensions, until the close of the second session of the next Parliament. The conditions under which pension is granted are set forth in sections 7, 8, and 64 of the statute, as under:—

7. Subject to the provisions of this Act, every person of the full age of sixty-five years or upwards shall, whilst in the colony, be entitled to a pension as hereinafter specified.

8. No such person shall be entitled to a pension under this Act unless he fulfils the following conditions, that is to say:—

(1.) That he is residing in the colony on the date when he establishes his claim to the pension; and also

(2.) That he has so resided continuously for not less than twenty-five years immediately preceding such date:

Provided that continuous residence in the colony shall not be deemed to have been interrupted by occasional absence therefrom unless the total period of all such absence exceeds two years; nor, in the case of a seaman, by absence therefrom whilst serving on board a vessel registered in and trading to and from the colony if he establishes the fact that during such absence his family or home was in the colony; and also

(3.) That during the period of twelve years immediately preceding such date he has not been imprisoned for four months, or on four occasions, for any offence punishable by imprisonment for twelve months or upwards, and dishonouring him in the public estimation; and also

(4.) That during the period of twenty-five years immediately preceding such date he has not been imprisoned for a term of five years with or without hard labour for any offence dishonouring him in the public estimation; and also

(5.) That the claimant has not at any time for a period of six months or upwards, if a husband, deserted his wife, or without just cause failed to provide her with adequate means of maintenance, or neglected to maintain such of his children as were under the age of fourteen years; or, if a wife, deserted her husband or such of her children as were under that age:

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[*] A Bill had been previously introduced in 1897, which, as amended by the lower branch of the Legislature, was transmitted to the Legislative Council, but thrown out by that body.

As a preliminary to the introduction of the Bill in 1897, an Act entitled "The Registration of People's Claims Act" was passed in 1896, under which persons aged sixty-five years or upwards, having resided twenty years in the colony, and whose income did not exceed £50 per annum, were allowed for a limited time to send in pension claims. This Act has been repealed, and all certificates granted under it cancelled, by the Pensions Act of 1898.

Provided that, if the pension-certificate is issued, the pensioner's rights thereunder shall not be affected by any disqualification contained in this subsection unless the fact of such disqualification is established at any time to the satisfaction of a Stipendiary Magistrate; and also

(6.) That he is of good moral character, and is, and has for five years immediately preceding such date been, leading a sober and reputable life; and also

(7.) That his yearly income does not amount to fifty-two pounds or upwards, computed as hereinafter provided; and also

(8.) That the net capital value of his accumulated property does not amount to two hundred and seventy pounds or upwards, computed and assessed as hereinafter provided; and also

(9.) That he has not directly or indirectly deprived himself of property or income in order to qualify for a pension; and also

(10.) That he is the holder of a pension-certificate as hereinafter provided.

64. This Act, in so far as it provides for the granting of pensions, shall not apply to—

(1.) Aboriginal natives of New Zealand to whom moneys other than pensions are paid out of the sums appropriated for Native purposes by "The Civil List Act, 1863"; nor to

(2.) Aliens; nor to

(3.) Naturalised subjects, except such as have been naturalised for the period of five years next preceding the date on which they establish their pension-claims; nor to

(4.) Chinese or other Asiatics, whether naturalised or not.

The full pension is £18 a year, payable in twelve monthly instalments; but for each £1 of income above £34, also for each £15 of accumulated property above £50, £1 is deducted from the amount of the pension.

The first instalment of the pension is payable on the first day of the month next but one following the date of the certificate.

For the administration of the Act the colony is divided into seventy-two districts, for each of which there is a Deputy-Registrar, controlled by a Chief Registrar at Wellington.

Each claimant for a pension must make application on a printed form. The said form is obtainable at any post-office, and when completed the claim is to be sent to the Deputy-Registrar for the district in which the claimant resides.

Each application is recorded in a book called "The .... District Old-age Pension-claim Register," and then transmitted to a Stipendiary Magistrate, who, having fixed a day for investigation, notifies the claimant to attend, if his presence is considered necessary. If the claim is admitted, the Stipendiary Magistrate issues a certificate to the Deputy-Registrar, who on receipt enters the particulars in a book called "The .... District Old-age Pension Register," after which a pension certificate is issued to the pensioner.

The particulars of pensions granted are entered on a weekly return form, which, with the Magistrate's certificate, is sent to the Chief Registrar for entry in the General Register of Old-age Pensions.

The particulars of instalments falling due are advised to the General Post Office on a schedule. Advice, authorising payment, is then issued to the Postmaster at the money-order office at which the pensioner desired the instalment to be paid. At frequent intervals the Accountant of the General Post Office furnishes a statement of the payments made, from which the monthly instalments are entered on a card bearing the name of the pensioner.

At the due date of the instalment the pensioner may present his certificate for payment at the money-order office named in the certificate. A pensioner failing to collect his instalment within twenty-one days forfeits the amount, but may apply for a warrant of waiver within fourteen days of such forfeiture. If a pensioner is unable, through sickness or other reasonable cause, to collect his pension, he may apply to have an agent appointed to receive the instalments on his behalf. Should a pensioner desire to change the office of payment an application is to be made to the Deputy-Registrar for the district in which the pension is registered. The change is advised to the Chief Registrar by telegram, who notifies the postal authorities. A transfer of a pension-certificate from one district to another is effected by the Deputy-Registrar for the district in which the pension is registered sending a warrant to the Deputy-Registrar for the district to which the transfer is made.

The decease of all persons of the age of sixty-five years and ups wards is advised to the Chief Registrar by the Registrars of Death- in the various districts.

All matters affecting the payment of pensions are reported by the Deputy-Registrars from time to time.

The Act came into force on the 1st November, 1898. In the same month a Registrar was appointed, and in December old-age pension districts were constituted, Deputy-Registrars were appointed, and notices were issued throughout the colony that forms of claim were obtainable at all post-offices.

The total number of pensions granted up to the 31st March, 1899, was 7,487, representing a yearly payment of £128,082, the average pension being about £17 2s.

STATE LIFE INSURANCE IN NEW ZEALAND.

[By J. H. Richardson, F.F.A., A.I.A., Government Insurance Commissioner, being a reprint of a Paper read before the International Congress of Actuaries held in London in 1898. Revised to date.]

Introductory.

The New Zealand Government Life Insurance Department was established in the year 1869, at the instance of the late Sir Julius Vogel, who tabled a motion in the House of Representatives recommending the Government to introduce a measure which would create a special department of the State for the purpose of insuring, and granting annuities on, the lives of such people as desired to avail themselves of the guarantee of the colony, in addition to the ordinary security provided by the funds of a life office. This motion was supported by the Hon. Sir John Hall, at that time Postmaster-General, and was duly carried, I believe, unanimously. In the same year there was a change of Government, and Sir Julius—who had in the meantime become a Minister of the Crown—introduced a Bill which gave practical effect to the motion, the adoption of which he had already secured.

SYNOPSIS OF THE LAWS OF THE COLONY REGULATING THE DEPARTMENT.

Since that time there have been several amendments of the law, as might naturally be expected from the evolution of the business. It will be unnecessary for me to specify the various amendments, and I shall therefore only give a brief synopsis of the constitution of the department, according to the Acts regulating the department's affairs at the present time.

The management of the department is vested in an officer called "The Government Insurance Commissioner," who is appointed by the Governor on the recommendation of the Ministry of the day, and is a member of the ordinary Civil Service of the colony, holding office in the same manner as other Civil servants. In order to prevent any deadlock, the Governor may appoint a deputy to act in the case of the absence, illness, or other temporary incapacity of the Commissioner. The Government Insurance Commissioner has power to enter into any contracts for annuities, and for insurance of lives, as well as any contracts whatever dependent on the contingencies of human life, under such regulations and in accordance with such tables as shall, from time to time, be approved by the Governor. The maximum of insurance on one life has been raised from time to time as the funds of the department have progressed. At present the department does not insure more than £4,000 on any one life. The Commissioner may increase premiums in proportion to the badness or ineligibility of a life, or he may decline the risk altogether. In all matters of litigation on account of the department the Commissioner may sue and be sued. The Acts regulating the affairs of the department provide, however, for arbitration in certain cases. If there are any disputes between the Commissioner and other parties, as regards annuities or death claims, the matter may be referred to the arbitration of two disinterested persons—one to be chosen and appointed by the Commissioner, and the other by the party with whom the dispute has arisen. In the event of there being any disagreement between the arbitrators, the matter in dispute has to be referred to an umpire to be appointed by the arbitrators before they enter upon the consideration of the matter referred to them. The award of the arbitrators or the umpire, as the case may be, is final and without appeal, except on a point of law. The arbitrators and umpire respectively have all the powers possessed by a Court of law to summon witnesses and examine evidence, &c. Before matters are referred to arbitration, the Commissioner may, however, require a deposit of money as security for the costs of the arbitration.

All moneys payable to the department are required by the Act to be paid into a separate account at the bank where for the time being the Public Account of the colony is kept, to the credit of an account called the Government Insurance Account, and if at any time the moneys standing to the credit of that account should prove insufficient to meet the charges thereon, the deficiency has to be made good out of the Consolidated Fund of the colony.

Salaries and expenses of management are paid out of the Government Insurance Account from moneys from time to time appropriated by the New Zealand Parliament; but all payments under policy and annuity contracts for insurance, annuities and endowments, or for loans on policies, or for investments, are made out of the Government Insurance Account without such appropriation by Parliament.

The department is subject to the ordinary State audit of the colony, and the Government Insurance Account at the bank is operated on by the Government Insurance Commissioner by cheque, countersigned by the Controller and Auditor-General of the colony.

The Commissioner has to prepare, for presentation to Parliament, a revenue account and balance-sheet for the preceding annual period, and such statements of accounts are accompanied by a report by the Commissioner on the year's transactions. An actuarial investigation is made into the affairs of the department every three years, and all profits (subject to suitable reserves being made) are then divided amongst the participating policyholders.

The investments of the department do not materially differ from those of an ordinary life insurance institution. They are in the main confined to New Zealand Government securities, loans to local bodies (municipal corporations and the like,) secured by special rate, loans to policyholders on the security of their policies, limited to 90 per cent. of the surrender value, and loans on mortgage of real estate, the last-named not to exceed three-fifths of the valuation. Not more than £10,000 can be lent on one real-estate security, nor more than that sum to any one person or company. No loan can be granted to a local body unless with the joint concurrence of the Board hereinafter mentioned and the Governor.

For the purpose of controlling and managing the mortgage investments on land of the department, a Board is constituted consisting of the Colonial Treasurer of the colony, the Solicitor-General, the Surveyor-General, the Commissioner of Taxes, the Public Trustee, and the Government Insurance Commissioner. The Board must be unanimous before any loan on mortgage can be granted, and three members of the Board form a quorum.

THE STAFF OF THE DEPARTMENT.

As already explained, the statutory duties under the Acts regulating the affairs of the department, and the general management of the department, are vested in the Government Insurance Commissioner. The Commissioner is assisted at the head office by the Assistant Commissioner (who also holds the position of Deputy Commissioner, the duties of which are explained in my remarks regarding the constitution of the department), the Actuary, the Secretary, and the Supervisor of new business. For all practical purposes the staff may be regarded as the same as that of an ordinary life insurance institution.

For purposes of control, the colony is divided into four districts, each of which is supervised by an officer called a District Manager. Subject to the control of the Commissioner, the District Managers are responsible for the management of their respective districts. It is their duty to recommend suitable gentlemen as canvassing agents, and to make suitable arrangements which will insure their districts being thoroughly canvassed. The District Managers are paid partly by results. They receive a fixed salary, and a commission on the net increase in the sum assured by the policies in their respective districts. Such net increase is arrived at by deducting the sum assured under the policies which have become void by death, lapse, surrender, &c., during the year, from the sum assured under the new policies issued during the same period. Where the department has not a District Manager or resident officer, it is customary to employ the local Postmaster. All such Postmasters are paid a commission for any work they may perform for the Department. Travelling agents are paid strictly by results. Their remuneration depends entirely on the amount of business they introduce. For all practical purposes they may be regarded as being on the same footing as the canvassing agents of an ordinary life insurance institution.

THE DEPARTMENT'S METHODS OF BUSINESS.

The department is conducted precisely on the same principles as those adopted in ordinary life insurance offices in which the profits are divided solely amongst the assured. It is in all respects a mutual self-supporting office. All expenses and taxes (to which the department is subject in common with other life insurance offices transacting business in the colony) are borne by the policy-holders, and the business is conducted on ordinary commercial principles. All classes of policies ordinarily issued by life offices are granted, the colony being vigorously canvassed by duly accredited travelling agents. All profits are divided amongst the assured, who, in addition, have the guarantee of the State that their contracts will be duly met at death or maturity.

CONDITIONS OF POLICIES.

The following are the more important conditions affecting policies:—

Thirty days of grace are allowed for the payment of all premiums. Policies which have not acquired a surrender value, when the premiums become overdue, may be revived at any period not exceeding twelve calendar months after the expiry of the thirty days of grace, subject to proof of health to the Commissioner's satisfaction and on payment of the arrears and a suitable fine. Ordinary policies acquire a surrender value after they have been in existence two years, and in the event of the premiums falling in arrear are kept alive out of the surrender value so long as such surrender value is sufficient—after the deduction of any loan that may have been advanced, or any charges that may have accrued—to cover one-quarter's premium. Any such policy may be revived within twelve months after the exhaustion of the surrender value, subject to payment of arrears and a fine, and to proof of health to the Commissioner's satisfaction.

The department's condition as regards suicide differs considerably from that usually adopted. Until recently the department's policies became void if the person whose life is insured died by suicide, whether sane or insane, within twelve months from the date of the policy. This condition was thought to be somewhat illiberal, but the department was not prepared to waive the suicide clause altogether, and it was considered that the following condition would fairly meet the case:—

Policies shall become void if the person whose life is insured shall die by suicide, whether sane or insane, within six months from the date of the policy; provided nevertheless that it shall be lawful for the Commissioner in his absolute discretion to pay the sum assured if he is satisfied, after careful inquiry, that the person whose life is insured had not at the date of the policy any suicidal intention.

I find that the new condition works well in practice. It is sufficient to act as a deterrent to prevent people effecting policies with a view to committing suicide, while, on the other hand, it does not prevent the department paying claims where there was no suicidal intention at the time the policy was obtained. Care is, of course, taken to peruse the inquest papers, and evidence is obtained from the canvassing agent in order to ascertain the circumstances under which the proposal was obtained. Cases in which the policy was effected voluntarily, without solicitation, would, of course, be looked upon with grave suspicion.

SURRENDER VALUES.

Whole-life insurance policies and endowment insurance policies may be surrendered after they have been in force for two years. Whole-life insurance policies or endowment insurance policies fully paid-up may be surrendered at any time after date of issue. Short term policies and other policies than those mentioned above are specially dealt with. The method or methods upon which surrender values are calculated are determined by the Commissioner.

In lieu of the surrender value paid-up policies are granted, provided such surrender value, after deduction of charges thereon, is equivalent to a paid-up policy of at least £20. The method of calculating surrender values is that usually adopted in life insurance offices.

PROGRESS OF THE DEPARTMENT SINCE ITS ESTABLISHMENT.

The following table shows the progress of the department since its establishment in 1869:—

Year.	New Business.		Business in Force at End of each Period.		Income (from)		Paid to Policy-holders.	Added to Funds.	Accumulated Funds.
	Number of Policies.	Sum Assured.	Number of Policies.	Sum Assured.	Interest.	Premiums.			
		£		£	£	£	£	£	£
1870–1871 ..	463	206,361	454	200,611	..	7,509	..	5,113	5,113
1871–1872 ..	1,357	461,310	1,689	625,421	543	17,545	1,526	10,041	15,154
1872–1873 ..	1,151	428,615	2,634	995,986	1,343	30,132	3,213	21,761	36,915
1873–1874 ..	1,499	510,010	3,953	1,453,496	2,332	43,379	7,033	30,321	67,236
1874–1875 ..	1,374	483,223	4,989	1,836,859	4,207	64,275	14,221	42,732	109,968
1875–1876 ..	1,249	481,170	6,153	2,282,129	6,669	72,253	23,755	43,749	153,717
1876–1877 ..	1,411	564,228	7,149	2,716,907	9,133	82,852	14,438	65,677	219,394
1877–1878 ..	1,994	681,109	8,711	3,251,220	12,601	98,582	21,645	73,129	292,523
1878–1879 ..	2,073	687,574	10,223	3,726,330	16,737	115,858	35,699	79,367	371,890
1879–1880 ..	2,266	722,554	11,656	4,171,504	21,098	125,076	39,088	87,446	459,336
1880–1881 ..	1,790	550,351	12,411	4,352,496	26,506	130,048	39,394	97,895	557,231
1881–1882 ..	2,523	702,909	13,810	4,695,338	31,310	139,996	53,593	96,659	653,890
1882 (½-year) ..	2,547	631,279	15,892	5,176,217	17,711	77,076	27,448	50,999	704,889
1883	5,113	1,039,916	19,917	5,898,951	41,173	174,372	42,923	141,271	846,160
1884	3,309	800,016	21,003	6,135,636	48,472	179,959	72,783	126,616	972,776
1885	4,379	859,770	23,218	6,466,276	52,150	188,586	72,626	129,259	1,102,035
1886	3,560	717,464	24,715	6,670,741	58,205	197,324	81,660	129,899	1,231,934
1887	3,124	766,952	25,439	6,831,934	66,380	201,904	125,019	96,559	1,328,493
1888	2,957	785,093	26,168	7,076,252	73,421	208,740	110,411	123,986	1,452,479
1889	3,187	781,255	27,218	7,326,129	81,386	217,308	112,102	129,969	1,582,448
1890	2,761	684,242	28,102	7,544,030	89,796	223,610	103,744	132,745	1,715,193
1891	2,934	699,901	29,226	7,782,734	96,379	234,496	144,574	132,604	1,847,797
1892	2,634	642,104	30,316	8,036,220	100,639	241,965	157,408	132,501	1,980,298
1893	3,263	740,428	31,709	8,302,257	108,098	253,574	141,321	148,292	2,128,590
1894	3,301	729,013	32,907	8,506,289	115,270	254,204	178,107	135,649	2,264,239
1895	2,874	608,048	33,968	8,651,967	119,973	266,032	171,544	164,006	2,428,245
1896	2,864	605,986	34,772	8,754,804	124,255	270,720	166,369	163,097	2,591,342
1897	3,161	665,898	36,174	9,002,601	128,424	269,688	205,193	133,764	2,725,106
1898	3,386	713,489	37,848	9,304,742	131,188	278,949	210,245	136,428	2,861,534
	..	..	..	..	1,585,399	4,666,012	2,377,082	..	..

POLICIES IN FORCE AS AT 31ST DECEMBER, 1898.

The next statement is a summary of the different classes of business in force as at the above date:—

Class of Business.	Number of Policies.	Sums Assured.	Bonuses.	Annuities
ASSURANCES.		£	£	£
With Participation in Profits.				
Whole life assurances, uniform premiums	17,425	4,954,689	495,970	..
Whole life assurances, limited and single premiums	909	385,984	88,004	..
Endowment assurances, payable at death or maturity	17,476	3,593,357	233,678	..
Double endowment assurances ..	1,162	299,826	1,140	..
Joint life assurances, uniform premiums	11	5,200	295	..
Survivorship assurances	1	500	97	..
Annuity assurances, temporary assurance with deferred annuity	111	14,700	167	5,142
Annuity assurances, whole life assurance with deferred annuity	88	11,100	131	4,256
Total assurances, with profits ..	37,183	9,265,356	819,482	9,398
Without Participation in Profits.				
Whole life (transferred from Temperance to Non-profit)	4	650	3	..
Endowment, with return of premiums	287	34,751	..	..
Temporary assurances	2	600	..	..
Investments	93	3,131	..	..
Industrial	13	254	..	..
Total assurances without profits	399	39,386	3	..
Total assurances	37,582	9,304,742	819,485	9,398
ANNUITIES.				
Immediate..	249	..	..	10,437
Joint and survivorship	7	..	..	550
Reversionary	1	..	..	300
Deferred, without return of premiums	8	..	..	201
" with " "	1	..	..	20
Total annuities	266	..	..	11,508
Total of the results	37,848	9,304,742	819,485	20,906

ASSETS.

A summary is given of the department's assets as at the end of 1898, the last date to which the accounts have been published. The assets are held in trust for the policy-holders insured in the department, and are specially "ear-marked" to them by statute:—

	£
Loans on policies	541,474
Government securities	827,858
Municipal corporation debentures	106,781
County securities	1,000
Harbour Board debentures	42,549
Town Board debentures	500
Landed and house property	120,938
Office furniture (Head Office and agencies) ..	3,057
Mortgages on property	1,130,608
Properties acquired by foreclosure	19,770
Outstanding premiums..	37,635
Interest outstanding and accrued	41,031
Agents' balances	2,383
Sundry accounts owing	1,045
Cash in hand and on current account	47,735
	£2,924,364

VALUATIONS.

Particulars are shown of the actuarial valuations that have been made from time to time :—

Date.	Basis of Valuation.		Surplus.	Cash Divided.	Reversionary Bonus declared.
	Assurance.	Annuities.			
			£	£	£
30 June, 1875	H^m 4½ per cent.	Carlisle 4½ per cent.	12,191	Nil	Nil
„ 1880	„	„ 4 „	73,671	56,000	124,552
31 Dec., 1885	„	British Government experience, 1884, 4½ per cent.	242,557	150,000	319,391
„ 1890	H^m 4 per cent.	Ditto, 4 per cent. ..	232,652	200,000	396,439
„ 1893	„	„ „ „ ..	190,000	140,000	277,268
„ 1896*	„ *	„ „ „ ..	225,000	144,000	257,911
				690,000	1,375,561

* The reserve of £81,000 set aside on this occasion made the standard equivalent to H^m 3⅝ per cent.

LANDED AND HOUSE PROPERTY.

The department's landed and house property at the larger centres throughout the colony is valued at £120,938. Such parts of the buildings as are not required are let to tenants. The institution owns large offices at Wellington (the Head Office), Auckland, Christchurch, and Dunedin.

TEMPERANCE SECTION.

In July, 1882, the department opened a special section confined to policy-holders who totally abstain from all intoxicating liquors and desire to be insured in the section.

The original intention was to constitute a distinct branch of the department, keeping the receipts, expenditure, funds, valuations, and profits entirely separate. For the first few years the premiums, claims, surrenders, commission, and medical fees were kept separate, but the interest and general expenses were not so kept.

In 1885, valuations of the two sections, General and Temperance, were made separately by the Consulting Actuaries of the department in London, who apportioned the total funds between the sections by assigning to each section the expenses which admitted of being specifically appropriated, such as commission and medical fees; by dividing the remaining expenses between the two sections in proportion to the premium income of each; and by dividing the interest between the two sections in proportion to the average fund of each for that particular year.

The result of these valuations was that, while there was a substantial surplus in the General Section, there was a deficiency of £2,759 in the Temperance Section. This deficiency was mainly owing to the short duration of the section, only two years and a half. As a matter of course, no bonuses were allotted to Temperance policy-holders on this occasion.

Early in the history of the Temperance Section there arose a demand on the part of the total abstainers in the General Section to be transferred to the former section. This demand was complied with, and until the end of the year 1888 transfers from General to Temperance were allowed, being limited to those policy-holders whose policies were their own absolute property, and were dated before the 1st July, 1882, and also provided that each policy-holder had been a total abstainer since taking out his policy. The total number of policies so transferred was fifty-eight, assuring £17,910.

Before the end of 1888, however, when these transfers ceased, dissatisfaction had arisen in the Temperance Section in consequence of the results of the 1885 valuation. The net surplus in the General Section was distributed in April, 1887, and it was soon felt that the Temperance policy-holders were keenly dissatisfied at receiving no bonuses at the same time. This dissatisfaction being very pronounced, and exhibiting a tendency to seriously interfere with the business of the department, steps were taken to secure fresh legislation enabling the two sections to be amalgamated, excepting so far as profit from mortality was concerned. The amalgamation of the two sections was approved by the New Zealand Parliament, and was given effect to by "The Government Life Insurance Acts Amendment Act, 1890," which sets forth that the amount of profit from favourable mortality in the General and Temperance Sections is to be ascertained separately, and divided exclusively amongst the policy-holders of the section in which it has arisen, and that the remaining portion of the profits is to be divided, irrespective of the section to which policy-holders belong; and at the three subsequent valuations of 1890, 1893, and 1896, a method of dissecting profit from mortality, approved by our Consulting Actuaries, was adhered to.

The question of the treatment of backsliders received careful and anxious consideration in the early years of the Temperance Section, but it was not necessary to ask for declarations of total abstinence until the first division of profits among Temperance policy-holders in 1890. The settlement of this difficult matter was finally effected by the Act of 1890, above referred to, which sets forth that all Temperance policy-holders who fail to adhere to the principle of total abstinence, except for sacramental purposes, shall be removed from the Temperance Section unless any case shall be proved, to the satisfaction of the Commissioner, to have been one of extreme urgency. Those so removed are divided into two classes:—

(1.) Those whose prospects of longevity have not, in the opinion of the Commissioner, been impaired through use of alcoholic or fermented liquors, and whose habits would permit of their being insured in the General Section if they were proposing for new insurance; and

(2.) Those whose prospects of longevity have, in the opinion of the Commissioner, been impaired through the use of alcoholic or fermented liquors, or whose habits would not permit of their being insured in the General Section if they were proposing for new insurance.

Class (1) to be transferred to the General Section, and Class (2) to a "Non-profit" Section.

In consequence of the Act of 1890 (referred to in last paragraph), a special condition was indorsed on all new Temperance policies as follows: "In the event of the assured failing to abstain from all intoxicating liquors (except for sacramental purposes) at any time during the currency of this policy, he shall thereupon be removed from the Temperance Section, subject to the provisions of 'The Government Life Insurance Acts Amendment Act, 1890;'" and before each distribution of profits a declaration of continued abstinence is required from every Temperance policy-holder. Transfers to the General Section in accordance with the Act of 1890 are effected by indorsement, and a new number in the General Section is given to the transferred policy. In transfers to the Non-profit Section the number remains unaltered. The policies so transferred to the end of March, 1897, are as follows:—

—	General.		Non-profit.	
	Number.	Amount.	Number.	Amount.
		£		£
1891	216	51,025	10	2,150
1893	111	26,239	6	775
1895	1	300	−(1)	−(300)*
1896	151	32,025	..	..
1897	58	13,172	..	..
	537	122,761	15	2,625

* Transferred to General Section.

Of the non-profit policies, only four, for £650, remain in force, the others having become void, thus :—

		£
Maturity	1	200
Surrender	2	600
Lapse	8	1,175
In force	4	650
	15	2,625

At the amalgamation of the two sections in 1890 the accounts which had been previously kept separate were brought together.

There have been four divisions of profits since the inauguration of the Temperance Section—in 1885, 1890, 1893, and 1896. On the first occasion, Temperance policy-holders received no bonus; in 1890, General and Temperance bonuses were equal; in 1893 the Temperance bonuses were slightly higher; and at the last valuation in 1896 the positions were reversed, and the General bonuses proved to be on a slightly higher scale than the Temperance bonuses. It must, however, be borne in mind that the numbers in the Temperance Section are still too small to allow any definite conclusion to be drawn from these results as to the future bonus prospects of the two sections.

The following is a summary of the yearly progress of the Temperance Section since its inception :—

Year.	Policies Issued.		Policies Void.		Policies Transferred to General and Non-profit Sections.	
	Number.	Sum Assured.	Number.	Sum Assured.	Number.	Sum Assured.
		£		£		£
1882 ..	472	111,225	1	500	..	..
1883 ..	998	204,424	10	1,950	..	..
1884 ..	842	197,475	215	43,945	..	..
1885 ..	1,112	225,154	304	64,802	..	..
1886 ..	1,129	199,019	337	73,773	..	..
1887 ..	518	112,995	511	115,778	..	..
1888 ..	383	91,734	438	90,787	..	..
1889 ..	430	95,146	301	63,941	..	..
1890 ..	400	89,372	237	49,984	..	..
1891 ..	432	90,733	231	48,963	226	53,175
1892 ..	504	109,359	176	37,018	..	..
1893 ..	657	137,800	226	51,340	117	27,014
1894 ..	602	125,035	262	48,681	..	..
1895 ..	484	90,175	229	52,836	..	..
1896 ..	482	88,150	279	56,627	151	32,025
1897 ..	534	98,300	171	33,007	58	13,172
1898 ..	441	80,400	184	36,241	..	..
Total ..	10,420	2,146,496	4,112	870,173	552	125,386

	Number.	Sum Assured.
		£
Total policies issued	10,420	2,146,496
Total void and transferred	4,664	995,559
In force	5,756	£1,150,937

The balance in force at the end of 1898 was, therefore, 5,756 policies, assuring £1,150,937.

THE TONTINE SAVINGS-FUND SYSTEM.

The first Tontine Savings Fund was introduced through regulations, approved by the Governor, dated September, 1887.

This first fund is now known as "Tontine Savings Fund No. 1," and was open for new policy-holders to join until the 31st December, 1890, and for old policy-holders (who were allowed to transfer their policies to the Tontine Class by indorsement) until the same date. At the end of 1890 the Fund No. 1 was closed to new entrants, and this fund will be wound up at the end of 1900. In January, 1891, a fresh fund, Tontine Fund No. 2, was opened by regulations in the same manner, and this fund will be closed to new entrants on the 31st December, 1900, and wound up on the 31st December, 1910.

Each fund is composed of whole-life and endowment assurance policies, but it is stipulated that no endowment assurance can be placed in a Tontine fund unless it matures later than the date upon which the fund will be wound up and distributed among those policy-holders entitled to share.

The only difference between Tontine policies and ordinary with-profit policies is that the bonuses allotted to Tontine policies do not vest and are not negotiable until the winding-up of the Tontine Fund. Tontine policy-holders have all the privileges and benefits of ordinary policy-holders, except the right of dealing with their bonuses during the Tontine period.

The Tontine funds are formed of the proceeds of the bonuses on Tontine policies which become void during the Tontine period, together with their accumulations. Reversionary bonuses are allotted to Tontine policies in precisely the same manner as to ordinary policies.

Whenever a Tontine policy becomes void by death during the Tontine period, the full reversionary bonus (including prospective or interim bonus), is credited to the Tontine Fund; when a Tontine policy is surrendered, or the surrender value becomes exhausted previous to the lapsing of the policy, the full surrender value of all allotted bonuses (including prospective bonus) is credited to the Tontine Fund.

At the end of every year, the bonuses so credited to the Tontine funds are accumulated from the date of policy becoming void to the end of the year at the average rate of interest earned on the general accumulated funds of the department for the year, and, at the end of every year, the Tontine funds as at the end of the previous year are accumulated at interest in a similar manner.

Tontine policy-holders are only allowed to borrow on the face value of their policies, nor are they permitted to surrender their bonuses for cash, until the Tontine Fund to which they belong is wound up.

On the winding-up of Tontine No. 1 in 1900, and Tontine No. 2 in 1910, the respective funds will be divided between the surviving Tontine policy-holders whose policies are in full force on the 31st December, 1900, and the 31st December, 1910, respectively.

The shares of profit so determined (together with the bonuses allotted to the Tontine policies during the Tontine period), then become the negotiable property of the respective Tontine policy-holders, who will be allowed to deal with them practically in the same manner as ordinary policy-holders may deal with their bonuses; that is to say,—

(1.) The total reversionary value of the bonuses may be added to the policy, which then becomes an ordinary policy at the original rate of premium;

(2.) The whole of the policy (including bonuses) may be surrendered for the then equivalent cash value, paid-up assurance, or immediate annuity:

(3.) The bonuses may be surrendered for the equivalent cash value or immediate annuity, and the original policy continued in force.

In Tontine No. 1, policy-holders surrendering their bonuses for cash, and continuing their original policies in force, are allowed the option of placing the policies so kept in force in a fresh Tontine; in Tontine No. 2 no such option was allowed, as it was not known certainly that a new Tontine would be opened upon the closing of Tontine No. 2 to new entrants on the 31st December, 1900.

The position of the two funds on the 31st December, 1898, was as follows:—

	Number of Policies in Force.	Sum Assured in Force.	Tontine Fund.		
		£	£	s.	d.
Tontine No. 1 ..	3,712	1,033,727	12,644	11	0
Tontine No. 2 ..	4,018	963,200	2,514	11	8
Total ..	7,730	1,996,927	15,159	2	8

CIVIL SERVICE INSURANCE.

"The Civil Service Insurance Act, 1893," came into force on the 1st January, 1894, and requires each officer (with certain exceptions) appointed to the Civil Service after that date to effect a policy in the Government Insurance Department providing for the payment of a sum at death, should he die before sixty years of age, and an annuity until death should he survive that age; that is, a temporary assurance ceasing at age sixty, and a deferred annuity commencing at that age. The officer, by paying an additional premium, may, if he so desire, have the insurance changed to a whole-life one. Under "The Civil Service Reform Act, 1886," 5 per cent. was deducted from the salaries of officers appointed after the passing of that Act, and accumulated at interest for their benefit on retiring from the service, or for the benefit of their representatives in the event of death. By the Civil Service Insurance Act of 1893, Civil servants appointed under "The Civil Service Reform Act, 1886," have the option of coming under the provisions of the former Act, and applying their existing accumulations to increasing the annuity payable under the scheme.

Officers who have attained that age which would render it inexpedient, or impossible, for them to effect policies providing for the combined benefits, may elect either to have a 5-per-cent. deduction made, as provided under the Act of 1886, or purchase an ordinary assurance policy.

The policies under the Civil Service insurance scheme cannot be assigned or mortgaged as long as the assured remains in the service.

Officers on retiring, or being dismissed, are entitled to continue their policies.

The annual deduction is £5 from every salary under £150; £7 10s. for a salary of £150; and increasing £2 10s. for each additional £50 of salary up to £800.

Regulations have been issued under the Act setting forth the benefits, and providing that the combined benefits shall only apply to persons appointed whose ages do not exceed 40 years. Persons appointed over 40 years' old and under 50 can select an annuity commencing at 60, or, provided they are able to pass the necessary medical examination, an endowment assurance payable at death, or 60. If the officer is over 50 years of age, he can insure under any of the department's tables, on passing the necessary examination.

Whenever the deductions increase, such increase, and the corresponding increase in the benefits, are indorsed on the policy. The deductions made provide an insurance equal to a year's salary, as well as a pension beginning at age 60.

The number of policies under this scheme in force at the 31st December, 1898, was 236, insuring £34,150, and entitling the survivors at age 60 to annuities amounting to £9,288 per annum.

POSTAGE-STAMPS.

The department pays its own postage, just as any ordinary life insurance institution. By special arrangement, however, with the Postal and Stamp Departments of the colony, the Government Insurance possesses a special stamp of its own, the dies for which are retained by the Stamp Office, the stamps being supplied to the Insurance Department in exchange for cash as required.

"LIFE ASSURANCE POLICIES ACT, 1884," AND "LIFE ASSURANCE POLICIES ACT 1884 AMENDMENT ACT, 1885."

As all policies issued by the department are affected by these Acts, it may not prove uninteresting to give a brief summary of their principal provisions, so far as they relate to the policies issued by the department.

ASSIGNMENTS AND MORTGAGES OF POLICIES.

The department is not bound to receive, nor is it liable in any way to be affected by express, implied, or constructive notice, however given, of any trust (affecting any policy) created after the passing of the Act. The Act provides forms for assignment and mortgage of policies both to outsiders and to the companies (including the department) issuing the policies. In the former case the assignment is affected by indorsement in schedule form, as under:—

*Form of Ordinary Transfer.**

Date of Transfer.	Signature of Transferor.	Witness: Address, Occupation.	Transferee.			Signature of Transferee.	Witness: Address, Occupation.	Date of Registration of Transfer.	Signature of Commissioner.
			Name in Full.	Address.	Occupation.				

The policy thus indorsed is left at the department's head office, whereupon the Commissioner, if in his opinion the transaction is in due form, signs and registers the transfer, and the policy becomes vested in the assignee, who thereupon becomes the holder of the policy and may thereafter sue, as well at law as in equity, in his own name on the policy assigned. The receipt of such assignee is a valid discharge, both at law and in equity, for all moneys payable thereunder. If any such assignment is upon any trust, such trust has to be effected by way of declaration of trust by some separate instrument, and no notice of any such trust is inserted in the assignment or indorsed on the policy. Re-assignments of policies are effected in the same manner.

The Act provides a special form of assignment where the policy is surrendered to the company issuing it. There is nothing special about the form. It is merely an acknowledgment of the receipt of the surrender value, and a full release. The Act provides a special form of mortgage which relates to loans advanced by the department as well as to advances made by outsiders. All such mortgages have to be executed by both mortgagor and mortgagee, unless the mortgage be to the department or company liable under the policy, in which case it has to be executed by the mortgagor only. In every mortgage, not being a mortgage to the department or company liable under the policy mortgaged, certain covenants are implied and have the same effect as if embodied in the mortgage. In the case of mortgages to the department on its own policies, other covenants are similarly implied, and have the same effect as if they had been embodied in the mortgage.

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* By this form of transfer, an absolute assignment of the policy is effected.

It does not necessarily follow that the implied covenants, both in the case of mortgages to the company issuing the policy and to outsiders, are to be rigidly adhered to. There is power under the Act to negative or modify any of the implied covenants, or to add others, provided, of course, all such are duly embodied in the mortgage deed. Mortgages to outsiders are registered by leaving the same, duly executed, with the policy and a certified copy of the mortgage, at the head office of the department; whereupon the Commissioner, if satisfied that everything is in due form, indorses on such policy a memorandum as follows:—

MEMORANDUM OF REGISTRATION OF MORTGAGE ON POLICY.

MORTGAGE of the within policy to , of , registered this day of , 18 , at o'clock in the noon.

Commissioner.

At the same time the following indorsement is made on the mortgage:—

MEMORANDUM OF REGISTRATION OF MORTGAGE ON MORTGAGE.

THIS mortgage registered this day of , 18 , at o'clock in the noon.

Commissioner.

The certified copy of the mortgage is retained in the head office of the department, and the policy and the original mortgage are returned to the person leaving the same. In the case of mortgages to the department the same course is followed, except that the policy and the mortgage are retained by the department. Any number of mortgages may be registered against the same policy, taking effect and having priority according to priority of the date of registration. Any mortgagee, when he has sold a policy under the power of sale implied in his mortgage, may execute an assignment of the mortgaged policy, adding words in the assignment purporting that he has sold it in exercise of his power of sale; and thereupon all the provisions of the Act relating to the registration and effect of assignments apply to such assignment. The Act expressly provides that in such cases neither the department nor any purchaser from a mortgagee shall be bound to inquire into the propriety or regularity of the sale, or be affected in any way by notice, express, implied, or constructive, that the same is in any way improper or irregular, or be bound or concerned to see to the application of the proceeds of a sale by a mortgagee. Mortgages are discharged by a simple acknowledgment (witnessed in the usual manner) as follows:—

THIS mortgage is hereby discharged [*if discharge be only partial state so*].
Dated this day of , 18 .

A.B.,
Mortgagee.

Signed by the above-named A.B., as mortgagee,
in the presence of—

C.D.,
[*Occupation and address*].

Where such discharges have been duly registered by the Commissioner, the policy is released from the mortgage to the extent specified in the discharge.

Any person acquiring a policy through the bankruptcy of the holder, or under a will, or intestacy, or under a writ of execution issued out of any Court, may, on the production of the policy, together with the evidence necessary to establish his right to such policy, have his title registered by the Commissioner and the policy duly indorsed. and such indorsement vests the policy in such person fully and effectually.

Mortgages of policies may be assigned in exactly the same way as policies. If the Commissioner refuses to register any assignment or document, the person desiring such registration may apply to a Judge of the Supreme Court, who, after hearing evidence, has the power either to order registration or refuse the application. Registration effected in pursuance of a Judge's order has the effect of discharging the Commissioner from any responsibility for the consequences of such registration. The department and all other persons whosoever are not, except in the case of fraud, affected by notice of any interest whatsoever in any policy which interest is not registered on the policy, and registered dealings with the duly registered assignee or mortgagee of a policy shall not, except in the case of fraud, be capable of being set aside or affected in any manner whatsoever by any such notice. Notwithstanding the provisions of the Act as to registration, nothing contained in the Act operates as a bar to prevent a competent Court from enforcing any equities which may exist as between the parties to any transaction or matter relating to any policy, or any interest therein, or any moneys payable thereunder.

In the event of the department keeping a policy alive out of its surrender value, the Act specifies that all moneys so applied, with interest accrued thereon, shall be a first charge on the policy and the surrender value thereof, and may be deducted therefrom as against any mortgagee or assignee whatsoever.

PROVISION FOR LOST OR DESTROYED POLICIES OR INSTRUMENTS.

When any policy is lost or destroyed, or when any instrument required to be registered, or the production of which is in any way essential to registration, is lost or destroyed, the Commissioner may, on such evidence and subject to such terms and conditions as he thinks fit, issue a certified copy of such policy, which thereafter takes the place of the lost or destroyed policy, and at the same time becomes the sole evidence of the contract made by the policy; or the Commissioner may effect any registration on such terms and conditions as he shall think fit, notwithstanding the loss or destruction of any such instrument as aforesaid. Prior to the time when the special provision as regards copy policies became law, the department experienced considerable difficulty in dealing with lost policies. Deadlocks frequently occurred, and it was necessary to obtain bonds in many cases. Under the present law, it is my practice to ask for a statutory declaration before a Justice of the

Peace or solicitor, fully explaining the loss or destruction of the original policy, what steps have been taken to search for the missing document, &c. Upon receipt of such declaration, it is my invariable practice, unless the circumstances are distinctly exceptional, to require the applicant for the copy policy to deposit the cost of two or three advertisements, to be signed by me, setting forth that, unless notice be lodged with me forbidding the issue of a copy policy, I shall proceed to do so after a certain date specified in the advertisement.

In the case of a claim where the policy is not forthcoming at the time the ordinary claim papers are lodged, I sometimes ask for a bond to be executed by the executor or administrator, and two sureties, indemnifying the department against loss. In all such cases I ask for suitable statutory declarations, and invariably advertise the loss of the policy, and that I purpose issuing a copy after a specified date. The arrangement works smoothly enough, and I find it a vast improvement on the unsatisfactory state of affairs that previously obtained.

PROTECTION OF POLICIES.

Policies of the department do not become void by non-payment of premium so long as the surrender value is not exhausted by any charges thereon. With some few exceptions, the department's policies are protected from bankruptcy to the extent of £2,000, exclusive of bonuses, or in the case of annuities to the extent of £104 per annum. Such protection does not avail to protect any policy from passing to a trustee in bankruptcy if it be proved to the satisfaction of a Judge of the Supreme Conrt that such policy was taken out by the bankrupt with intent to defraud his creditors. A holder of a policy whose policy has been protected from bankruptcy is incapable for three years after his bankruptcy of disposing of the same, except for a paid-up policy, or of mortgaging the same, except for the purpose of keeping the policy in force. The Commissioner in registering an assignment or mortgage, and any person taking an assignment or mortgage of a policy, is not bound to inquire whether the holder of such policy has been bankrupt within three years; and except in the case of fraud, no assignment or mortgage, or registration, shall be capable of being set aside on the ground that it was such a policy as referred to, and that the holder thereof had so assigned or mortgaged it into contravention of the terms of such proviso.

MONEYS PAYABLE UNDER A POLICY FOR THE BENEFIT OF MINORS, &C.

When any moneys become payable under a policy to or for the benefit of a minor, or to or for any person otherwise incapable of exercising his rights, and there is no trustee or person capable of giving a valid discharge, such moneys may be paid to the Public Trustee of this colony, a member of the Civil Service acting under special Acts of the Legislature of New Zealand, unless, of course, another trustee is appointed in due course of law.

If, however, application is made to a Judge of the Supreme Court, the Judge may appoint the Public Trustee, or any other person, trustee of such moneys on such terms as he may order. Payment by the department to the Public Trustee, or to a trustee appointed by the Court, is a valid discharge.

PAYMENTS WITHOUT PROBATE.

In cases where the sum assured, exclusive of bonuses, does not exceed £200, the Commissioner, without requiring probate or letters of administration, may pay such moneys, together with accrued bonuses, to any person being the husband, wife, father, mother, child, brother, sister, nephew, or niece of such deceased person, or to any person who can prove himself to the satisfaction of the Commissioner to be entitled to the effects of the deceased person under his will (if any), or under the statutes for the distribution of the effects of intestates, or to be entitled to obtain probate of the will of such deceased person, or to take out letters of administration of his property. In every such case the Commissioner is discharged from further liability in respect of the claim so paid. The Commissioner may, if he thinks fit, require probate or letters of administration to be taken out, and thereupon pay such moneys to the executor or administrator of the deceased. All persons to whom such moneys as aforesaid are paid are held bound by the Act to apply the same in due course of administration; and, if the Commissioner thinks fit, he may require such persons to give sufficient security by bond or otherwise that the moneys so paid will be so applied, but the Commissioner is not bound to see to the proper application of such moneys.

CONCLUSION.

In conclusion, I may be permitted to say that the progress of the Insurance Department has been of a highly satisfactory character. It began business in 1870, some thirty years after the New Zealand Company established its first settlement at Wellington, where the head office of the department is situated. Since then, when the population of the colony numbered only 248,000 souls, what was deemed by some persons a hazardous experiment has proved a success considerably beyond the expectations of its originators, and, judging by the experience of past years, the prospects of the future are replete with promise of still further advancement. By the tables of mortality, as officially reported, the death rate of New Zealand, as might be expected from the salubrity of the climate, is the lowest in any community within the British dominions, or, indeed, in the world, and hence arise increased profits, which, with the low premiums and the valuable adjunct of the State security, have obtained for the department an appreciation and popularity to which the growth of the sum assured, the expansion of the accumulated funds, and the general condition of the institution, bear satisfactory testimony.

NEW ZEALAND CONSOLS.

THE purpose of "The New Zealand Consols Act, 1894," is, by providing for an inscription of such Consols, to give further facilities for the safe investment of savings. Practically, it establishes another branch of the Government Savings-Bank, with extended power of investment. Under section 3 the Colonial Treasurer is authorised to receive by way of deposits from persons in the colony sums of money up to £500,000; but the amount deposited in any one year must not be more than £250,000. The currency of such deposits is not to exceed forty years. The rate of interest must not exceed 4 per cent. (The actual rate being paid is 3½ per cent. per annum.)

Post-office money-order offices throughout the colony are made use of to receive applications for inscription, and also for payment of the half-yearly interest on the amounts deposited. The Receivers are the Postmasters, and the Registrar under the Act is the Secretary to the Treasury, Wellington.

Regulations have been issued, under which every deposit of money for inscription is to be accompanied by an application according to the form given below, which is to be signed by the applicant and countersigned by the Receiver (Postmaster) taking the deposit. The person paying the money receives an interim receipt pending official acknowledgment from the Registrar at Wellington. The receipt subsequently given by the Registrar to the Consols-holder is not a negotiable document, or of monetary value, beyond its being proof of the deposit for purposes of inscription. A holder of Consols can obtain from the Registrar on application and payment of 5s. a certified copy of any entry in the register relating to his deposit.

There is provision for the transfer of Consols from one holder to another on application being made to the Registrar according to the second form given, and payment of 1s. fee.

In case an inscriber desires to make use of his deposit, or any portion of it, to the extent of £5, or a multiple of £5, he can obtain a Consols certificate which is payable to bearer, and is transferable by delivery. This certificate entitles the holder to receive interest half-yearly at the same rate as the original inscription, and also to payment of the principal sum on the due date.

The application for the certificate must be according to the form appended, and the fee payable is 1s. for every one hundred pounds or aliquot part thereof expressed in the certificate. There is also a fee at the above rate for inscribing the amount of a Consols certificate. The form of Consols certificate is also given.

Interest on Consols for which no certificate has been issued is payable by warrant, and such warrants are transferable by indorsement in the manner provided in the form.

Interest on Consols for which a certificate has been issued is payable to the bearer of the certificate on presentation at any post-office money-order office, or at the Treasury, Wellington (see the last form).

The Act provides for the deposit of money by minors, which may be acceptable to parents as encouraging habits of thrift in children.

The Consols have a currency to the 1st February, 1910, and carry interest at the rate of three pounds ten shillings for every one hundred pounds deposited, and an assured investment of moneys bearing a fair rate of interest for so long a term should secure, when well known, a large portion of the deposits of our thrifty population.

Application for Inscription.

To the Registrar of Inscribed Consols,
Treasury, Wellington.

I [We], , of , having this day deposited at the sum pounds shillings and pence, for investment in -per-cent. New Zealand Consols, hereby request that the same may be duly inscribed in the books of your office in the name of .

Signature of depositor:
Full address of depositor, together with name of nearest money-order office :

Dated at , this day of , 189 .

Deposit duly received as above.

Signature of Receiver: .

Application for Transfer.

In consideration of the sum of , the receipt whereof is hereby acknowledged, I [we], of do assign the sum of pounds shillings and pence, being my [our] interest or share in the New Zealand -per-cent. Inscribed Consols, under the "The New Zealand Consols Act, 1894," and all my [our] property, right, and interest in and to the same, and the dividends thereon, unto , of , his [their] executors, administrators, or assigns, and the Registrar is hereby requested to transfer the same accordingly. The prescribed fee of is enclosed herewith.

Witness my [our] hand , this day of , 189 .

Signature : .

Witnessed by—
Signature: .
Occupation: .
Address: .

I [We], of , do hereby accept the above Consols, and apply for the transfer thereof to me [us].

Signature:

Witnessed by—
Signature:

Application for Consols Certificate.

Place: .
Date: , 189 .

To the Registrar of Inscribed Consols,
Treasury, Wellington.

I [We], , of , being the holder of New Zealand Inscribed Consols to the amount of pounds shillings and pence, do hereby make application for a Consols certificate in favour of bearer for the sum of pounds, to be issued to me [us] in accordance with and subject to the provisions contained in "The New Zealand Consols Act, 1894." The prescribed fee of is enclosed herewith.

Signature: .

Witness—
Signature: .
Occupation: .
Address: .

Consols Certificate.

No. . £

THE bearer of this certificate will be entitled to payment of the sum of pounds sterling upon presentation hereof at the Treasury at Wellington, New Zealand, on the day of , 19 , together with such interest, computed at the rate of sterling per centum per annum, as may be found to be unpaid on the before-mentioned date in accordance with the indorsements of interest-payments made hereon.

The principal and interest are a charge upon and shall be paid out of the accruing income of the Consolidated Fund of the colony.

Interest hereon at the rate of sterling per centum per annum is payable half-yearly, on the and in each year, at any post-office money-order office within the colony.

The amount of interest paid is to be indorsed on the back hereof by the person making such payment.

Dated at the office of the Registrar of Inscribed Consols, Wellington , 189 .

, Registrar.

Countersigned—

, Controller and Auditor-General.

Entered, folio .

[On the back, indorsements of the half-yearly dividends paid by the Postmaster are to be duly made.]

Dividend Warrant.

To the Treasury at Wellington, or to the Postmaster at any post-office money-order office throughout the colony.

PLEASE pay or order the sum of pounds shillings and pence, being interest for half-year due , 189 , on £ -per-cent. New Zealand Consols.

£ : : . , Registrar.

I hereby acknowledge to have received the above-mentioned sum in full payment of interest for half-year due as above.

Signature:

SECTION II.

AGRICULTURE IN NEW ZEALAND.

[By M. MURPHY, F.L.S.]

It is generally admitted that there is no part of the British dominions where agriculture, in its widest sense, can be carried on with so much certainty and with such good results as in New Zealand. The range of latitude, extending as it does from 34° to 47° South, secures for the colony a diversity of climate which renders it suitable for all the products of subtropical and temperate zones, while an insular position protects it from the continuous and parching droughts which periodically inflict such terrible losses on the agriculturist and pastoralist of Australia and South America.

Again, the climate, although somewhat variable, never reaches the extremes of heat or cold. So genial, indeed, is it that most animals and plants, when first introduced to the colony, assume a vigour unknown to them before.

NORTH ISLAND.

All the best forage-plants and grasses thrive most admirably, continuing to grow throughout the year with little intermission. Stock of every sort thrive and fatten rapidly on the pastures, coming to maturity at an early age without the aid of roots or condimental foods. All cereals flourish equally well, more especially Indian corn, which produces from fifty to eighty bushels per acre.

So full is the soil of plant-food that several continuous crops of potatoes or cereals may be taken with little apparent exhaustion. Wheat, oats, and barley thrive where the soil is not too rich; otherwise they produce enormous crops of straw, without a corresponding yield of corn. The tobacco-plant thrives well, as do also hops and sorghum, broom-corn, peanut, hemp, ramee or rhea (China grass), together with a large variety of economic plants, the growth of which will one day afford employment for a large population. In addition to these, all the British, Chinese, and Japanese fruits, with oranges, lemons, limes, olives, and vines (in the northern part), flourish abundantly, requiring but ordinary care. Potatoes are largely grown, and yield heavy crops.

Much of the country along the south-west and west coast is being rapidly taken up, and the primeval forest is fast disappearing before the settler's axe. For the most part, the soil is fertile, and the growth of grass and clover is extremely rapid and vigorous when sown on the surface after the felled timber has been destroyed by fire.

To the British husbandman it will seem almost incredible that the best pasture-grasses grow and thrive as they do with no other preparation than the ashes resulting from the burnt timber, with no ploughing and no previous loosening of the soil—this, of course, being impossible amongst the forest of stumps—and yet, in less than a year from the date of scattering the seed, this same land will fatten from five to six sheep per acre.

So rapidly are these fertile forest-lands being cleared and converted into pastures that the demand for stock (principally dairy) has greatly increased, and this demand must continue for a series of years before it is fully met.

Before the introduction of the factory system stock was so unsaleable, especially in the North Island, that little or no attention was paid to this branch of rural economy, and the supply fell to the lowest ebb. The demand which has now set in is chiefly due to the settlement of the bush-lands with small selectors and the development of the dairy industry.

Those who in the past have watched the progress of New Zealand, especially of the North Island, have always maintained that when the Maori difficulties and other impediments to settlement were over, the prosperity of the country would advance at a very rapid rate. The time has now come, and all that is required to expedite the coming prosperity is the settlement of our lands by a thrifty class of settlers.

There are millions of acres yet unoccupied, a great portion of which is of good quality, and only waiting the hand of man to make it carry, with very little cost, large herds of dairy stock, with flocks of long-wool and crossbred sheep. The west coast of the island is essentially a cattle-country. Considerable areas in the midland districts are adapted to long-wool sheep, as is also the country along the east coast. Much of the country may be described as being good sheep-land, a large portion of which is quite capable of carrying two sheep to the acre, and some of it as many as three or four.

MIDDLE ISLAND.

If the North Island has a splendid inheritance in her forests, the Middle Island can boast of her magnificent plain-lands, rolling downs, and vast mountain ranges, all of which, to a greater or less degree, have already been made to contribute to the wealth of the colony.

The central portion of the Middle Island presented to the first-comers a vast plain, covered only with waving tussock-grass, offering little or no obstruction to the plough.

Travelling south, the country assumes a different character: easy, undulating downs, well watered, here and there interspersed with fertile plains, the greater portion admirably adapted for agriculture, and all of it suitable for pastoral purposes.

The climate of the Middle Island is not so warm in summer nor so mild in winter as that experienced in the North Island. However, as has already been stated, there are no extremes of heat or cold. Much more might be said in praise of this portion of the colony. It is deemed necessary to say so much in order that readers may better comprehend the comparative ease with which every kind of farming is carried on in New Zealand as compared with other countries less favourably situated.

AGRICULTURAL STATISTICS.

Full particulars, with comparative tables showing the progress of agriculture in the colony, will be found in the statistical portion of this work, Part II., Section XVIII.

THE PAST SEASON.

For the past three years we have had to record a shortage of crops (generally speaking), the result of insufficient moisture in the soil, coupled at times with hot winds of greater or less intensity and endurance; and a corresponding shortage of grain yields, parched pastures, and scarcity of food for all descriptions of farm animals.

This period of scarcity has given place to one of abnormal plenty. In the autumn of 1898 a change came over the face of nature, the result of oft-recurring showers of rain, never too heavy or continuous to check the routine of farm-work. Ploughing and sowing went on uninterruptedly till the whole of the crops were committed to the soil, which was in the very best condition possible. The absence of severe cold or chilling rains resulted in a continuous growth, both of corn and grass, throughout the season, with the ultimate result of abnormal crops of all kinds of cereals, and of grasses and clover. A reference to the agricultural statistics on page 350 will show that the area under wheat last season exceeded that of the previous year by 83,233 acres, and the yield has considerably exceeded that of the previous season, which was estimated at 17 bushels, as against 30 (approximately) for 1898–99. The unusually high price ruling for wheat, and indeed for all kinds of farm produce, in 1898, had the effect of inducing farmers to put an increased area under wheat and oats: a proceeding which might have been expected to produce the results which have followed—viz., ruinously low prices. Farmers seemed to have overlooked the fact that the high prices which were obtainable for cereals was not caused by any shortage in the Home or foreign crops, but rather to a shortage in some of the other colonies, which ran wheat up to 4s. and over per bushel, and potatoes to £7 and £8 per ton. These prices went far to recoup many farmers for the partial failure of their crops; so much so that many of them declare that, notwithstanding the abundance of the harvest this season, they were then better off, wheat being almost unsaleable at 2s. per bushel, and oats at 1s. The following remarks by "Ovis," in the *Canterbury Agricultural and Pastoral Association's Journal* for May. are entirely to the point. He says:—

> With a huge crop of wheat on hand, and no immediate prospect of any substantial rise in price, it may be taken for granted that the area sown in wheat this season will be considerably restricted. What has taken place here seems to be what has happened to a greater or lesser extent in most of the wheat-growing

countries of the world. A higher level of prices for a season or two led to an increase of acreage, and coincident with the extended area came exceptionally good crops, so that the world's wheat market is full to overflowing. It is true that no less a personage than Sir W. Crooke, the President of the British Association, assures us that, notwithstanding the enormous production of the last wheat harvest in the Northern Hemisphere, the reserves had fallen so low during the two preceding seasons, and the wheat-consuming population of the world has increased so largely, that even now the world stands close upon the verge of a wheat famine. That sort of thing, however, has been predicted before by men learned in statistics, and so, for the matter of that, has the exact date at which the world was to come to an end been more than once definitely fixed; but the wheat supply has never run out yet, and the world still swings in its proper orbit. But it may be a point worth noting that at no time since their last harvest has the American visible supply of wheat risen much above fifty million bushels, while some five or six years ago, when the price in the English market was even lower than it is now, the American visible supply of wheat sometimes rose as high as ninety million bushels. No doubt a rise in the English market would bring out the American supply more readily, but the fact of the visible supply remaining so steadily at about the same figure seems to indicate that the American surplus is not exceptionally great. There is still room for developments in the wheat markets during the next six months. We are ourselves surrounded by an unprecedentedly heavy wheat supply, and the same is the case in Australia; and from this evidence of our senses we are not unnaturally disposed to form the impression that the world in general is equally full of the cereal from which is derived the so-called "staff of life" for so many hundreds of millions of the human race. But our contribution to the world's wheat supply, large and important as it may be to us, does not amount to much more than a drop in a bucket. An infinitesimal diminution or increase per acre of the European and American wheat-crop would amount to as much as all that we can grow. By the time our next spring is here the wheat-crop of the Northern Hemisphere now growing will have been harvested, and the course of wheat prices during the next six months must therefore largely depend upon whether that harvest turns out a good or a bad one.

With the resources which we have within our reach, it is unwise to make the wheat-crop an unduly prominent egg in the basket. It was not a well-ordered proceeding for farmers last winter to scramble every available acre into wheat because the price happened to be high just then; but it would, perhaps, be not less unwise if the area sown in wheat this year should be restricted within exceptionally narrow limits on account of the price at the present time leaving little or no margin of profit. On most farms containing land suitable for wheat-growing there is usually a certain acreage which may be conveniently and advisedly sown to that crop, and if the wheat area is increased or diminished in any substantial degree it upsets what has been found by experience to be the suitable and orderly course of things. It is unwise to upset a regular and established system for no better reason than that the wheat market at a certain time happens to be either buoyant or depressed; for the course of the wheat market during any six months of any year no man can foretell. The wheat production and the wheat consumption of the world is too big a thing, and is influenced by too great and widespread a variety of circumstances, to admit of any accuracy of prediction being arrived at by statisticians or anybody else; and when a man thinks he knows, the only thing he can be quite sure about is that he does not know. So far as the farmers of Canterbury are concerned, the position in which they have found themselves has been something quite out of the common. The season has been one of such extraordinary productiveness that, with an unusually large extent of land and amount of working capital devoted to wheat-growing, the feed supply exceeds the requirements of the stock available for eating it off. Had farmers held their hand in the matter of wheat-growing, and gone in more largely for turnips, rape, &c., the difficulty of obtaining the necessary stock would have been considerably increased: a very singular state of affairs indeed, and one, perhaps, not likely to recur for many a year. The next year will be a busy time for farmers, whether it is a profitable one or not, for a large breadth of land in stubble implies the necessity of a lot of cultivation, for all that land has to go back into grass, or be otherwise dealt with. Whatever the course that may be adopted, the plough must be kept going, and there will be a corresponding demand for seeds of different kinds. It is well that there is a good supply of grass-seed in the country, and if we get a fairly good season or two following this one there will be much new pasture, which in its turn will have an effect on the demand for sheep.

Since the price of sheep went up after shearing, the market, with occasional fluctuations, has maintained a high level ever since. Considering the plentiful supply of feed, together with some improved prospect of the wool market and the steady demand for frozen mutton, there does not appear any likelihood of a fall in prices during the winter. As the turnips come into use there may even be an increased demand for sheep for fattening purposes. Prices have, however, been pushed to somewhere about the full limit at which any margin of profit is left to the purchaser. Had the price of wheat been good, with feed as abundant as it is, there might have been a good deal of wild speculation in sheep indulged in this season; but, with wheat a drug, and so much working capital absorbed in that branch of the agricultural industry, the purchasing power of those who have feed has been limited. It was a maxim of the original Rothschild never to give more for a thing than it is worth; only perhaps it requires the sagacity of a Rothschild to know exactly when the limit of worth has been reached. In wheat we have nothing to go upon except the cost of production, and that is a very difficult matter to arrive at, taking the world throughout. If we knew the average cost per bushel of producing the world's wheat crops, we might perhaps be tolerably safe in assuming that the average price would not be far above that figure. In Manitoba, for instance, they reckon the cost of growing a thirty-bushel an acre crop of wheat at about £1 per acre; but it costs us on an average considerably more than £1 to grow thirty bushels of wheat, so that Manitoba can grow wheat at a profit when we cannot. With regard to what a sheep is worth, we have some basis to go upon, something, at any rate, approaching reasonable probability. The value of the sheep stock of all classes is ruled mainly by the value of the exported surplus. The value of stores for fattening purposes depends, of course, in a direct manner on this consideration. With stores going at the prices they are this autumn, graziers cannot look for more than a very moderate return for the food consumed in the process of fattening. It is generally the case in places of plentiful feed that the margin between the prices of store and fat sheep is brought down to within very narrow limits, and when a grazier gets hold of a bad-doing lot of sheep the margin may disappear altogether. If every sheep comes out in prime freezing condition by the time the turnips are finished the transaction may come out all right, but when there is a long "tail" to the mob, the profits are liable to taper off in a corresponding degree. In buying breeding ewes, too, especially ewes full-mouthed and over, their real value must depend largely on what their progeny bring in as freezers. Aged ewes, if they are not too old, are generally considered the best to breed from for fat lambs, but if a man gives eight or nine shillings for a four or five-year-old ewe he must be pretty fortunate with his lambs to make much out of the deal. If he does not get a good percentage of lambs, and get them all, or nearly all, away fat, and if he has to sell the ewes for boiling-down, which may happen in a season of drought, he will certainly find in the long-run that he has given more for the ewes than they are worth.

WHEAT.

The Canterbury Plains, the great wheat-growing district of the Middle Island, extend 150 miles north and south, running inland from the sea for forty miles, the whole forming an area of about 3,000,000 acres. A great portion of this vast plain is admirably adapted for the production of wheat, barley, and oats of the best quality, the growing of which has been carried on extensively, more especially since the introduction of the reaper-and-binder. The total area under wheat for threshing in the colony for the season 1898–99 was 399,034 acres, of which 249,852 acres were grown in Canterbury, the average yields being approximately 30 bushels per acre. The land is for the most part free from stones or impediments of any kind. Single-furrow ploughs are now rarely seen, double- and three-furrow ploughs being in general use. Three horses, occasionally four, with a man or a boy, can turn over three acres per day on the plains, at a cost of 5s. or 6s. per acre. A stroke of the disc or other harrow, followed by the seed-drill and light harrows, completes the operation of sowing.

Seed-sowing commences in May, and can be continued as weather permits through the winter, and in the heavy swamp-land (drained) on into September and even October. From 1¼ to 1½ and 2 bushels of seed per acre are usually sown, the quantity increasing as the season advances.

Good results are in general obtained by feeding-off the early-sown grain with sheep, followed by the harrows and roller. The average yield on the better class of soil in favourable seasons is from 40 to 60 bushels per acre of dressed grain. The usual general average for the whole colony may be set down at 23 to 28 bushels, according to the season. It must also be stated that the small-bird nuisance (principally the English sparrow) reduces the average by at least 2 to 3 bushels per acre of wheat, oats, and barley. As a set-off against this, however, the destruction of caterpillars and seeds of weeds must be credited to these feathered marauders. Another cause for low averages is the fact that wheat is sown on land entirely too light in quality for that cereal. It will, however, be noted that the general average yield of all our cereals is higher than that of most other countries except that of Britain herself.

Several varieties of wheat are grown, but Hunter's White, Pearl, and Velvet Chaff are the favourite kinds for winter sowing. Red and White Tuscan are usually sown in spring. Extensive experiments are being carried on in New South Wales as to the merits of various classes of wheats, the produce of cross-bred varieties. It will be interesting to note the results.

In view of the periodical attacks of rust, advantage will doubtless be taken of the experience gained by carefully-conducted experiments which have been carried on during the past few years in Victoria, New South Wales, and Queensland, where it is claimed that certain wheats have been found impervious to the attacks of rust, thus minimising the losses caused by that fungus. But farmers will do well to receive with caution reports as to the rust-resisting qualities of one wheat as compared with another. Periodically varieties are introduced with every assurance of their rust-resisting qualities, but as often have they failed to realise what was claimed for them. A really rust-resisting wheat would be of untold value to humanity. It would be quite impossible to estimate the losses caused by this disease; its ravages have existed with varying intensity from time immemorial. Early sowing was said to be the best preventive measure, for the reason that the older the leaves are the tougher they become, rendering them less liable to attack from rust spores. This theory, however, has not been borne out by actual observation in this colony, as early-sown crops are sometimes attacked, if not severely.

Dressing the seed with genuine bluestone is found to be a certain specific for smut in its various forms, but not for rust.

The Oamaru (North Otago) district is famous for the quality of its wheat, grown on limestone soil.

OATS AND BARLEY.

Otago and Southland districts excel in the production of oats, which is their principal cereal crop, the breadth of land laid down last season being 220,427 acres of oats, against 99,752 acres of wheat.

The usual yield of oats in Otago and Southland is from 40 to 80 bushels per acre, the cost of production being about the same as wheat—viz., £2 per acre when grown from grass-land, and £1 10s. from stubble. The varieties of oats most in favour are Sparrowbill, Winter Dun, Canadian, Tartary, and Danish.

Malting barley, of very superior quality, is grown in Nelson and Marlborough, where the soil and climate appear to be particularly adapted to its culture.

Barley : The growing of this cereal for malting purposes requires more attention than it has yet received in this colony. The Malting Company of New South Wales have entered into contracts with farmers for regular supplies. This will give a stimulus to its growth. It is claimed for this crop that it will show a better result than wheat for the following reasons : (1) It is less exhaustive to the soil ; (2) it gives an average yield of from 10 per cent. to 20 per cent. more than wheat ; (3) the growing crop in favourable seasons can be fed off twice, or even three times, to the advantage of the subsequent yield of grain. Land of a light and calcareous nature, but unsuitable for wheat, will give a barley thin in the skin, and particularly suited for malting purposes. Specially-selected seed-barley has been imported and supplied to farmers at net cost, the company also undertaking to guarantee a price for the product if of a good malting quality. In connection with this aspect of the question, the company mention that when the current market price for wheat is 2s. 6d. a bushel, at least 3s. 6d. would be readily given for good barley. Barley is not a difficult crop to raise, but there are certain points that need careful attention, which, if neglected, would probably result in the production of an inferior sample, which would hardly pay for growing. The Department of Agriculture might well consider whether it would not be advisable to have attached to their staff of experts one or two more, whose special business it should be to enlighten farmers on subjects connected with their business, such as the growing of barley for malting purposes, the breeding of dairy stock, and the planting of trees for economic purposes. The increased area, amounting to 161,485 acres, under wheat, oats, and barley in the past season is not likely to be maintained, and the culture of roots and grasses will be reverted to.

REMARKS ON CEREALS.

Observers of passing events, as affecting rural affairs, must have noted that corn-growing, like that of any other industry, has its cycles of depression, followed by others of prosperity. A few years ago it was predicted that profitable wheat-growing had come to an end in this colony, and indeed it appeared like it when wheat fell to 2s. and 2s. 6d. per bushel. The acceptance of this theory gave an impetus to the cultivation of turnips, rape, barley, oats, peas, &c., for feeding sheep, lambs, and pigs, from which a more certain return could be secured, while large areas of formerly cultivated land reverted to pasture for grazing purposes. The manufacture of cheese and butter also received a lasting stimulus. The curtailment of the wheat area referred to was, indeed, by no means an unmixed evil, for had farmers gone on cropping indiscriminately, our fields would not only have become exhausted, but they would have been polluted with weeds to an irrecoverable extent. Farmers have come to see that a mixed system is the only safe course to pursue now in the management of their land.

ROOT-CROPS.

Potatoes: Potatoes are largely grown throughout New Zealand. On suitable soils very heavy crops are raised, it being no uncommon thing to dig from 8 to 10 tons per acre, although the general average is much lower, for the reason that unsuitable land is frequently devoted to this crop. The bulk of the crop is planted without manure, but, where used, bonedust, superphosphate, blood-manure, or animal guano (which may be procured of first quality from the local manure manufactories), from 1 cwt. to 2 cwt. per acre, is applied with good results. The potato is, however, an expensive crop to grow, costing from £5 to £6 per acre. The year 1898 will be long remembered as a record one for potato-growers as regards prices. The drought which affected several of the Australian Colonies caused a great shortage in that esculent, and prices advanced to £6 and £7 per ton. As much as £70 has been realised per acre over a considerable area.

Land for potatoes is usually broken out of grass, skim-ploughed in autumn, ploughed deeply in spring, and thoroughly tilled; or potatoes may be grown in drills opened and closed with a double-furrow plough. The seed—15 cwt. per acre—is then ploughed in under every third furrow, the after-culture consisting of harrowing just as the crop is appearing over ground (by this means myriads of seedling weeds are destroyed); drill-grubbing, hoeing, horse-hoeing, and earthing-up being the subsequent operations. Heavy crops of wheat, oats, barley, beans, or peas can always be relied upon after potatoes, season permitting.

Turnips: The turnip-crop of Canterbury, notwithstanding the ravages of the larvæ of the Diamond-back moth, was a most abundant one, probably exceeding that of any previous year. This circumstance, together with the abundance of feed, created a demand for store sheep, which had to be supplied from outside sources, stores being so high that very little margin was left for profit. The area under turnips for 1898–99, according to the agricultural statistics, is 416,024 acres.

On virgin soil turnips can always be relied upon as a certain crop without any manure, even with a single furrow and a couple of strokes of the harrow. But, as most of the land (at least in the Middle Island) has already been cropped, turnips cannot now be successfully grown without the aid of manure. In the nature of things, from a climatic point of view, farm-yard manure cannot be procured in sufficient quantity; artificial manures are therefore largely used, from 1 cwt. to 1½ cwt. of superphosphate of lime per acre being now applied with the best results, securing ample crops of sound roots, from 15 to 30 tons per acre. The seed is sometimes sown in drills on the flat, the manure being dropped in front of the seed by the same machine, from ½ lb. to 1 lb. of seed per acre being used; when sown broadcast a smaller quantity will suffice. Sometimes the manure is deposited in a liquid state by machines manufactured for the purpose, called water-drills. This system invariably secures a rapid and vigorous braird, forcing the young plant into the rough leaf, after which it is secure from the attack of the turnip-beetle, usually the first enemy of the young plant's growth. So soon as the turnip-plants reach the third or fourth leaf, they are thinned by a scuffler, made for the purpose, which is drawn across the drills, bunching the turnips and thoroughly loosening the soil. The drill-grubber and scuffler are used as required till the leaves meet. This kind of culture produces capital crops at a minimum of cost. In Otago and Southland, where Swede turnips are largely grown, the seed is sown in drills and the young plants are thinned out with the hand-hoe in the same manner as the mangold crop is treated in Canterbury and elsewhere. Large areas are sown broadcast, and, if found too thick, the harrows are run through them; in any case, a stroke of the harrows is a great help in promoting the growth of the plant. The varieties used are Devonshire Grey for early and very late sowing; Purple- and Green-top Aberdeen are the most generally grown. Swede turnips, from their proneness to the attack of the turnip aphis, are not so much grown, though they produce enormous crops in Otago and Southland, where the climate is more suitable. The turnip-crop is generally fed off by sheep intended for freezing. It is estimated that an acre of good turnips, with a little hay or oat-chaff, will fatten from eight to fourteen sheep. Turnip-sowing commences in November, and may be continued till the end of December. Stubble turnips may be sown in

March, but this can only be considered as a catch-crop. It, however, often proves of great value, supplying an abundance of green food for ewes with early lambs. Turnip-land is usually sown with oats or barley, and sometimes spring wheat.

Rape is largely grown as sheep-feed, and may be sown either in early spring or immediately after harvest, the stubble being skim-ploughed or broken up with the spring-tined cultivator. This crop is invaluable in the early spring, and may be fed-off in time for oats or barley. Dairy-cattle, however, should not be fed on rape, as doing so destroys the flavour of the milk.

Mangolds and Carrots are largely grown in some districts. They cost more money per acre than turnips to produce, as they must be hand-hoed; nor are they so suitable a crop for cleaning the land. Turnip-sowing does not commence till November or December, affording ample time for the destruction of seedling weeds; this important opportunity is largely lost in the culture of the mangold, which is usually sown in October. Mangolds are, however, an invaluable crop on a stock-farm, as they do not reach their primest condition until the turnip-supply is exhausted, usually in August. From 30 to 60 tons per acre is not an uncommon yield of these roots, often without the aid of manure, on rich swamp land.

Carrots are also a valuable crop, especially for horses; on sandy loams the yield reaches 15 to 20 tons per acre. Carrots impart a pleasant flavour to butter, and should be largely grown for dairy stock.

FERTILISERS.

This industry has now assumed important dimensions—manufactured from the waste products of animals slaughtered for freezing. The demand for fertilisers must increase from year to year, as our lands become more frequently cropped. In the early days of the freezing industry, when the demand for turnips became general, the native-grass land (tussock) was then in its natural state. All that was necessary was to turn this virgin soil over with a shallow furrow, harrow down, and sow the seed (a few ounces) to the acre, without any fertiliser whatever. A good crop was the inevitable result.

The plough has now been over almost the whole of our available new lands. It is now found absolutely necessary to sow fertilisers with the seed to give the young plant a start. Assuming that 1½ cwt. per acre is used all over the 569,075 acres in root-crops, this would mean an annual demand for 42,680 tons, without taking into consideration that used for grain, orchards, &c. One of the most practical farmers in New Zealand has, however, given it as his opinion that, with a proper course of rotation, it will be many years before it will be necessary to apply fertilisers to corn crops—except, indeed, in a few extreme cases. Experiments have been made with a view to testing how far fertilisers may be used for raising wheat on the thinner soils of the colony, with varying success. In some cases it has been demonstrated that the application of a nitrogenous manure resulted in an increased yield sufficient to justify the additional outlay per acre, in others the result was not favourable; however, the season has much to do with results from such experiments. The lack of moisture will nullify the good which might otherwise follow the application of fertilisers whether to root or cereal crops.

Notwithstanding the quantity of fertilisers manufactured in the colony, importations are made, principally from Australia. Mr. G. Gray, Lecturer on Chemistry at Canterbury Agricultural College, in a paper on "Soil Fertility" shows that the land is drained annually of 5,871 tons of nitrogen, 1,000 tons of phosphates, 2,438 tons of potash, and 1,006 tons of lime: so that there is room for still further enterprise in the manufacture of manures.

A fortune awaits the finder of extensive beds of coprolites in New Zealand. Traces have been discovered sufficient to awaken the hope that sooner or later payable deposits will be found.

SEEDS.

Clover: Saving clover for seed has now become an established and a lucrative industry, adding materially to the farmers' income. Clover is sown with a spring crop, usually of corn, lightly grazed in the following autumn, and then reserved for a crop of hay, which, according to the season, yields from 2 to 3 tons per acre when cut in November or early in December. Some farmers prefer feeding off with sheep in preference to mowing for hay. The after-growth is then allowed to flower and seed, which it does very freely. Thousands of humble-bees may be seen in the clover-fields during the months of January, February, and March. The seed ripens in March, and is then cut and dried, and threshed out by machines known as clover-shellers. An acre of clover may yield in hay and seed from £8 to £10. It must, however, be stated that, while a good crop of clover-seed is a most lucrative one, it is nevertheless a most precarious one. Owing to the lateness of the season of ripening, it sometimes happens that the fertilisation is imperfect, resulting in a majority of barren heads. This has given rise to a controversy as to whether the proper bee has been introduced. The point was referred to Miss Ormerod, the English entomologist, who settled the question in the affirmative.

White and alsike clover are now grown in considerable quantities. White clover yields enormously: as much as 300 lb. of alsike seed has been obtained per acre. These clovers are not so dependent on the action of the humble-bee for their fertilisation. They mature earlier, and are more easily threshed and cleaned than cow-grass and red clover.

Grass-seed Saving: All the most valuable British grasses flourish throughout New Zealand. Cocksfoot has been for many years a staple product of Banks Peninsula (Akaroa County), where the soil for the most part consists of decomposed volcanic rocks and vegetable mould. Large quantities of this seed are now raised in the North Island as well. The seed is of the finest description, frequently weighing 20 lb. to the bushel, 12 lb. being a standard bushel. Cocksfoot thrives on a very wide range of soil, from the richest to the poorest, preferring, of course, the former. It may be found on the dry stony plains of the interior, green and healthy, when the surrounding herbage, introduced or indigenous, has yielded to the heat of the summer sun.

Growing ryegrass for seed is also an important industry. The seed is usually gathered by stripping; sometimes the grass is cut and tied and afterwards threshed by machinery. The average yield is from 15 to 20 bushels per acre, weighing from 25 lb. to 32 lb. per bushel, 20 lb. being the standard weight. A common practice is to graze the land till midsummer; to take the stock off for a few weeks, and then to run the stripper over the ground. By this primitive method 10 bushels per acre are sometimes secured, being of the finest quality. Ryegrass-seed is usually in good demand, and sells readily at from 3s. to 4s. per bushel.

Meadow fescue, one of the most valuable of all the grasses for permanent pasture on good land, is grown both in the North and Middle Islands, but as yet not very largely. A noticeable instance of the value of this grass for pasture purposes was illustrated in a paddock which came under the writer's notice. The paddock was laid off into three equal parts, and sown with perennial ryegrass, meadow fescue, and Italian ryegrass. When well grown, sheep were turned in. They at once commenced to feed on the fescue, eating it quite bare, while the perennial ryegrass was left almost untouched. The Italian ryegrass received considerable attention. The preference for the fescue was very marked. Growing grass-seed of all the finer kinds should be an important industry in New Zealand, but as yet very little attention is paid to it. All that is required is to select clean land and clean seed to commence with. At the recent Agricultural Conference held in Christchurch, Mr. Kirk, Government Biologist, read an analysis of grass-seeds tested by him in the Government Laboratory, which showed that many of the samples fell far short of the required percentage of germination. Several of the samples tested were imported seeds; still others, colonial-grown, showed very low germinating power. With carefully grown colonial seeds this should not occur. Carefully conducted, the seed-growing business should prove a lucrative one.

Small Seeds: New Zealand, from the nature of her soil and climate, offers a fine field for growing all kinds of farm and garden seeds. This circumstance has already attracted the attention of some of the larger seed-merchants of Great Britain, whose agents occasionally visit the colony with a view to inducing farmers and others to grow certain kinds of seeds. The industry is peculiarly adapted to small holdings, and well suited to young persons, the work being light and of an interesting character. Ready sale can be found for carefully-grown and carefully-cleaned garden seeds.

OTHER CROPS.

Pulse : Peas and beans are largely grown for pig-feeding and for export; they form an excellent preparation for wheat. An extensive trade in peas of a certain description is done in the manufacturing towns of Great Britain; and efforts are now being made to secure a share of this trade for the colony by producing peas suitable for splitting for human food. The business should prove a most remunerative one. Thirty bushels of peas are considered a fair crop, while 40 to 70 bushels of beans are often secured. As showing the extraordinary fertility of some of the lands in the Canterbury District, it may be mentioned that beans and wheat have been grown alternately on Kaiapoi Island for thirty years without any apparent diminution of yield, the crops of recent years being as abundant as those grown years ago; 40 to 50 bushels of wheat and 60 to 70 bushels of beans being the usual return per acre.

Cape Barley and Winter Oats : The demand for early spring feed has resulted in the growing of these plants for forage. Their extreme hardiness renders them well adapted for autumn sowing. If sown in March they are ready for feeding-off in May; they may be fed off again in July, and on till the beginning of October, when, if allowed to run to seed, they will produce 40 to 60 bushels per acre, or they may be ploughed in for turnips.

Tares are also grown, but not so largely as they deserve to be, especially for dairy stock. Mixed with oats, barley, or rye, they are excellent milk-producers; and when grown luxuriantly they destroy all kinds of weeds, and leave the land in fine condition for a spring corn-crop.

Lucerne : This permanent fodder-plant thrives admirably in most parts of New Zealand, yielding three to five cuttings in the year; and, if properly cultivated and well attended to, it will continue to yield liberal cuttings for seven or eight years. This is a most excellent crop for the small or large farmer, furnishing, as it does, an abundant supply of succulent fodder, in deeply-cultivated soils, during the drier months of midsummer, as well as in the early spring. All farm animals are partial to lucerne; pigs thrive admirably upon it. No farm should be without a well cultivated plot of this plant. In deeply-cultivated land lucerne will yield several cuttings during the season, no matter how hot and dry the weather may be. It is this drought-resisting quality which renders lucerne such a valuable fodder plant in Queensland and New South Wales.

EUROPEAN FLAX.

The cultivation of European flax has not been extended in the colony. Inducements have from time to time been held out to grow it for seed for crushing purposes. Flax is an exhausting crop when grown for seed only. Farmers are not partial to this crop, for the reason that it leaves no edible straw behind it for the use of stock during the winter months. It is also an encourager of weeds, as the land has to be reduced to a fine tilth for the reception of the seed.

Efforts were made some time ago to establish the European flax industry in Canterbury, when wheat-growing was unprofitable owing to the low price. The attempt failed, in consequence of the want of expert knowledge, coupled with the high price of labour. It was, however, amply demonstrated that the soil of Canterbury was admirably adapted for its growth. It was found to yield 15 to 30 bushels of seed per acre, while the straw produced the finest of fibre, which, if properly manipulated, would command a ready sale at highly remunerative prices. It must, however, be stated that the preparation of European flax fibre to produce a really good sample requires great care and skill from the time the plant is pulled till it is turned out ready for market. It was the want of expert knowledge which was the chief cause of the failure above referred to. The industry will, doubtless, one day be an important one, when the population is much greater than it is at present, and when instructors will be employed to enlighten the growers as to all the details. Growing European flax for the production of seed for crushing purposes only is not to be recommended; it tends to foul the land and impoverish the soil, as the seed and straw are both removed. It may, however, with impunity enter into a rotation, and, if not grown more frequently than once in five years, will do little harm to the land. Farmers should, however, grow a patch of linseed for feeding calves and pigs, &c.

SUGAR-BEET.

A great diversity of opinion prevails on the question of introducing this industry into the colony. Notwithstanding that liberal bonuses and other encouragements have been offered by the Government from time to time during the past twenty years to encourage the establishment of this industry, it has not yet advanced beyond the initiatory stage. The advocates of this industry in New Zealand may, however, derive encouragement and hope from what is being done in Victoria. The Government have advanced, on the most favourable conditions, £50,000 towards establishing the industry. £25,000 have been subscribed by local enterprise. A spacious factory has been erected at Maffra at a cost of £25,000; the plant, which is of the most modern pattern, cost £40,000. The work of crushing was commenced in April, 1897; 200 hands (men and boys) are employed, the weekly wage-bill amounting to £400. A considerable quantity of sugar has been sold at good paying prices. It is said to be of first-rate quality. The farmers who grow the beet are also shareholders. The crushed pulp, after the saccharine matter has been extracted, is taken by the suppliers for feeding dairy cattle. The factory is capable of crushing 350 tons per day of twenty-four hours. The machinery is kept going night and day. The development of this industry will be watched with great interest by those farmers in the Waikato district who are anxious to see the production of beet sugar an established industry in that district.

IRRIGATION.

The losses inflicted on farmers and pastoralists owing to the partial drought which prevailed in Canterbury and North Otago during the years 1896 and 1897, and up to May of 1898, has given rise to the question—viz., how best the waters of our rivers and great inland reservoirs (in the shape of lakes) could be made to contribute the necessary amount of water to the thirsty soil during times of drought. The Ashburton County Council have been experimenting with water for some years past. They have secured the right to raise a loan sufficient to carry out extensive irrigation works. The Canterbury Agricultural and Pastoral Association, alive to the importance of the question, summoned a meeting of delegates from the various County Councils, Road Boards, and Agricultural and Pastoral Associations to discuss the matter and devise means for promoting the end in view. Several representative meetings were held, resolutions were passed, and finally a Bill was drafted for presentation to Parliament, praying that the necessary amendments might be made in the present Water-supply Act, increasing the powers of local bodies and enabling them to deal directly with the question of irrigation. These amendments have been secured, giving extended powers to public bodies, so that whenever the movement in favour of irrigation becomes more general, and its benefits more appreciated, no delay need be experienced in taking steps to carry out the work. No one questions the advantage to be derived from the judicious application of water to growing crops during dry periods. The question is its economic application. It is not proposed that irrigation should be carried on over large areas of country, but rather that farmers should proceed cautiously, at first irrigating a few acres about the homestead, the orchard, the garden, and the clover-crops, extending to the root-crops, and ultimately to the cereals and grass-lands.

Irrigation by wind-power presents many attractive features, especially for those districts which cannot be worked as part of a general scheme. In America this system is largely resorted to, with beneficial results. An excellent paper on irrigation by wind-power was laid on the table at the recent Agricultural Conference, in which it was stated that a plant costing £50 would suffice to water 25 acres of ground; interest and depreciation would amount to 4s. per acre. Moreover, it was pointed out that a windmill could be made to earn a considerable sum by gearing it to a chaffcutter, crusher, or other machinery, and so utilise the power when not required for pumping. The concensus of opinion appears to favour the notion that irrigation is more applicable to small holdings, where the work can be done by the farmer and his own family, rather than for extensive holdings where much manual labour would have to be employed. It is argued by some that, except in exceptional seasons, the rainfall of Canterbury, and indeed of the whole of New Zealand, is sufficient for our requirements. To a certain extent this view is correct; but, on the other hand, observers will admit that there are periods in every season, varying in duration, when water could be used with the greatest advantage. There is little doubt but that the farmers of Canterbury alone have lost more bushels of corn and acres of green crops and grass during the dry seasons of 1896–97 than would probably pay for the whole outlay required to bring a sufficient supply of water into the plains for irrigation purposes.

Cost of Working a Farm in New Zealand.

When comparing the cost of working a farm in England with one of the same size in the colony, several points have to be taken into account, such as the climate, the soil, labour, and machinery. In the colonies wages are higher than in Britain; as a set-off against this, the colony can claim, firstly, that there are more fine working days in the year, that the fields are much larger, that the latest improvements in machinery have been introduced, that the soil is more easily worked, and that the genial nature of the climate renders it unnecessary to house stock during the winter months, at least in the North Island, thus saving the cost of attendance; secondly, that farming operations may be carried on continuously throughout the ploughing and sowing season; and, thirdly, that the paddocks are so large, and usually so level, that the double- and treble-furrow plough may be worked by one man or youth with three horses, thus equalising the cost of labour, as we have shown that one man, or even a boy, will be quite equal to two men or boys in the Old Country, so that after all the difference in the rate of wages is not so great as might appear at first sight.

The hay-crop is simply cut one day, raked into windrows the next, and in a couple more it is ready for stacking.

Wheat is cut and tied by machinery, the stooks requiring no capping. It is frequently threshed out of the stook in favourable seasons, thereby saving the cost of stacking and thatching; but this method is not recommended except in hot, dry seasons. When stacked, the stacks are rarely thatched, except, perhaps, on the weather side. This is a wise precaution, the neglect of which sometimes entails serious loss.

The manure bill, which is such a heavy item of annual expenditure with the British farmer, presses as yet very lightly on the farmers of the colony. It is, however, a notable fact that the use of fertilisers is becoming more general; 1 cwt. to 1½ cwt. of superphosphates per acre is used with the turnip and other root-crops, for the purpose of forcing the young plant into the rough leaf, when it will be out of one danger—the turnip-fly. It will nevertheless be seen that the colonial farmer has many advantages over the farmer of the Old Country.

Live Stock.

Cattle: The total number of cattle in the colony was 1,203,024 for 1898–99.

Horses: Horses have increased by 5,281, the increase being for the most part in light ordinary stock. This is mainly owing to the increased area under cultivation.

Sheep: If any evidence was required to show how splendidly New Zealand is adapted for the production of sheep, it would be found in the fact that, notwithstanding the abnormal drought in the chief centres of sheep-farming, there has, according to the latest returns, been a considerable increase. This is all the more remarkable when it is considered that 1,653,170 sheep were frozen for export in 1897 as well as 1,038,316 lambs.

Pigs: The stock of pigs, according to the last returns, is set down at 193,512 as against 186,027 in 1897–98, showing an increase of 7,485. There is still room for an enormous extension of this industry. With wheat at 2s., oats at 1s. 3d., per bushel, and an abundance of mangolds and carrots, Canterbury alone could do with double the stock of breeding sows now on hand.

SHEEP.

Sheep: New Zealand has proved itself admirably adapted for the breeding of all classes of sheep, from the fine-combing merino to the strongest type of Lincoln. The merino occupies and thrives on the wild lands of the colony, from the snow-line to the border of the plains, as well as on the drier portions of the plains. The merino ewe furnishes the foundation for all the crossbred varieties. On the rich moist soils the Lincoln and Romney Marsh sheep flourish, while the finer English and Border Leicesters occupy the drier lands.

Crossbred Sheep: Those bred from merino ewes and longwool rams, or from crossbred ewes with Down rams, are the most suitable for the frozen-meat trade, and are known as "freezers."

The dapper little Southdowns flourish wherever crossbreds thrive. Their more ponderous cousins, the Shropshire and Hampshire Downs, have their admirers, especially the Shropshire, which are largely used for crossing, with a view to producing early-maturing lambs. English Leicesters are also much sought after for this purpose, particularly in the Middle Island, where "prime Canterbury" mutton is produced.

Since the development of the frozen-meat trade, sheep-farming in the colony has undergone a radical change. At one time wool was the chief consideration, the surplus stock finding its way into the boiling-down vat, the tallow and pelts being the only products of value. Things have marvellously altered since 1882, the inaugural year of the frozen-meat trade. Farming has assumed a new phase, sheep-raising for mutton and wool being the most profitable branch. Small and large flocks of pure and crossbred sheep are now kept on all farms which are suitable for them, the object being the production of early lambs for freezing. The percentage of increase all over the colony is very high, especially in the paddocks, where 100 to 125 per cent. is not uncommon in favourable seasons, while on the hill and unimproved country it varies from 45 to 80 per cent.

Shearing commences in September, and is continued till January. The usual price per hundred is from 15s. to 17s. 6d. Shearing-machines are gradually coming into use, but some sheep-farmers prefer hand shearing.

The average clips for the various breeds of sheep are approximately as follow: Merino, from 4 lb. to 7 lb.; quarter-breds, about 6½ lb.; half-breds, 7½ lb.; three-quarter-breds, 8½ lb.; Leicester, 10½ lb.; Lincoln, 11 lb. Of course, very much larger clips are obtained from special flocks, as much as 25 lb. to 30 lb. per sheep; but the above figures represent general averages.

The staple of New Zealand wool, especially the long-wool and cross-bred, is remarkable for its freedom from breaks and other imperfections incidental to countries subject to long droughts and scarcity of feed.

The most profitable sheep for New Zealand is that which combines the best fleece and the most suitable carcase for freezing purposes, together with early maturity. This is the class of sheep which some sheep-breeders have set themselves to produce. Whether such an animal, having fixity of type, can be evolved, remains to be proved; so much depends on the feed, situation, and soil. One or two breeders claim that the new breed, Corriedale, embraces these desired qualities and possesses a fixity of type. The generally accepted meaning of the Corriedale is a sheep resulting from the fourth cross of half-bred Lincoln-merino, and the rams Lincoln. The progeny of these is half-bred. These in turn are bred, half-breds to half-breds, for four generations, and a Corriedale is the result. It was Mr. James Little, of Allandale, Waikari, Canterbury, who gave sheep bred on these lines the distinctive name of "Corriedale."

The capability of New Zealand for producing mutton has not yet reached its limit. When the frozen-meat trade was first seriously considered, an assertion to the effect that the colony could soon find 1,000,000 sheep per annum for freezing without impairing the breeding-flocks was treated as highly chimerical by sheep-breeders of long experience. It is found, however, on reference to the statistical returns, that during the year 1898 nearly a million and three-quarters sheep and over a million lambs were exported from New Zealand. There are twenty-one freezing-works in the colony, with a full freezing-capacity of 3,665,000 sheep per annum. While congratulating the colony on the rapid development of the frozen-meat trade, it must be borne in mind that in Argentina strenuous efforts are being made to secure a share of the frozen-mutton trade carried on by New Zealand with Great Britain; Australia is also making strong efforts to share the trade with New Zealand. It must be admitted that with cheaper land, and a closer proximity to the markets of the world, Argentina will necessarily be a very formidable rival with Australasia. The sheep-farmers are becoming alive to the value of Down sheep for crossing purposes: they pay as much as six guineas per head for Shropshire ewes, and twenty-five to fifty guineas for Lincoln rams. The only way to keep command of the market is to ship nothing but first quality mutton and lamb. The development of the frozen mutton industry, especially that of our rivals, may fairly be gauged by the following facts: In 1882 the importation of frozen mutton into Great Britain only amounted to 66,093 carcases. Of this Australia contributed 57,256 carcases, and New Zealand the balance, no other countries being then engaged in the trade. Last year (1898) the importations amounted to 6,422,153 carcases. The countries contributing this amount were as follows: New Zealand, 2,731,762; Argentina, 2,340,442; and Australia, 1,263,422.

Raising lambs for the frozen-meat trade has become one of the mainstays of colonial farmers, large and small, especially the latter. Like butter and cheese, the returns are ready cash. The magnitude of this industry may best be estimated by the fact that up to the 31st March last the colony sent away 1,113,340 lambs, valued at £503,866. This, coupled with 1,618,422 sheep, valued at £843,867, making a grand total of £1,347,733, is sufficient evidence of the great and important changes which have come over the agricultural industries of this colony—a condition of things which has brought about a system of farming calculated to develop to the utmost the resources of the country. Some 528,014 acres were devoted to root and other fodder crops this season for feeding sheep, of which 416,024 acres were under turnips, 103,921 acres in rape, and 8,069 acres in mangolds, &c.

"The New Zealand Flock-book," published in 1895, is now thoroughly established, and, with careful management, must prove of great service to owners of pure pedigree flocks. The Royal Agricultural Society of Victoria have already published a Flock-book for British breeds of sheep. This is a step in the right direction, as flock-masters in South America demand a certificate to the effect that the cattle and sheep purchased by them are duly registered in an authorised Herd- or Flock-book.

The following article from the pen of Mr. Acton Adams, an experienced flock-owner, appeared in the *Weekly Press*, being one of a series of papers on sheep-farming published in that journal, entitled "Which is the most profitable sheep to grow?" This is the question that naturally engages the mind of the New Zealand sheep-farmer. Ten years ago the pure English breeds were not available in any number; and the merino was the basis upon which the sheep of the future had to be grafted. Most breeders seemed agreed that some kind of crossbred must be created. It was generally admitted that whilst the English longwools, namely, the Lincolns, Leicesters, and Romneys, were too big and heavy for the larger farms of the colony, yet the English Downs—the Southdown, Shropshire, Hampshire, and Oxford Down—would not grow sufficient wool to be profitable:—

> I mention the above breeds, and omit the Cotswold, Highland Black Face, Welsh, and other breeds that I have seen at the annual Royal Shows in England, because, for various reasons, such as bone with the Cotswolds, coarseness

and lightness of fleece with the Black Face, and smallness of carcase with the Welsh, these other breeds, of which there seems to be one for every British county, are generally admitted to be not worth trying in New Zealand.

On the other hand the merino, of which the New Zealand flocks at first almost entirely consisted, though profitable as a wool-grower on the hilly and thinly grassed lands, yet was totally unfitted to depasture on the bush lands of the North Island, or the heavy swamp lands of the South; and last, but not least, would neither mature early enough nor provide the meaty plump carcase that was most saleable in the London market.

There was then a general consensus of opinion that some kind of crossbred was the right sheep to grow, but as to which kind there were as many opinions as there were provinces in New Zealand. Most, however, I think would agree with me in limiting the choice of the one side of the cross to the few purebreeds I have enumerated above, and at any rate, in order to prevent this paper becoming too discursive, I shall confine my attention to them only.

In discussing the question as to the most profitable sheep I would first point out that that question for each individual farmer largely depends on the position of his farm and the character of its soil, and that what is the most profitable sheep in one locality may be an unprofitable animal in another place. In some parts wool pays best, in others meat. There are the back country runs where the merino still reigns supreme on the uncultivated pastures, where the return for stores represents about one-third of the gross returns, the wool finding the other two-thirds. There are other estates partly cultivated, and growing halfbreds, where stores and fat sheep provide half the gross profits. And, again, there are the highly cultivated properties within easy distances of the freezing factories, where fat lambs are grown on rape, turnips, and clover, and the returns from meat double those from wool, and return two-thirds of the gross income. These points must not be overlooked in coming to a conclusion on the question stated at the head of this paper.

Coming then first to the Lincoln, one of the purest and most ancient of British breeds, I will admit that for the long moist pastures of the North Island no cross is more profitable: though the Lincoln crossbred lamb is too slow in maturing, and too long in the shank when matured for a first-class lamb for the London market, yet the long lustrous fleece grown on the Lincoln crossbred sheep is pre-eminent, and not to be excelled by any other cross, and it blends better with the merino than any other.

Wherever it pays to grow fat lambs (and nothing is so profitable on suitable land), it will pay best to grow the cross that comes next in my list—namely, the English Leicester. This breed, as all breeders know, is an improved one, created about a hundred years ago by selection, and is now more generally used in the English Midlands than any other; though in the extreme north the severity of the climate compels the use of the hardy Black Face, and on the Southern downs the shortness of the herbage and the high price of superior mutton in the London market render the Down varieties more profitable. And as Canterbury holds somewhat the same position in New Zealand as the Midlands do in Britain, I recommend the use here of a cross from the same breed.

I admit that the Lincoln cross is better in most parts of the North Island, and that the Border Leicester is suitable to the drier pastures of Otago, whilst the Romney, from its powers of resisting foot-rot and withstanding wet, suits the rank, coarse grassed localities of the North Island, and the wet, cold districts of Southland. The wool of the English Leicester is softer and finer than that of the Lincoln, though not so lustrous and long. It blends fairly well with that of the merino, and the half and three-quarter crosses yield a fine, heavy fleece, classed by experts as fine half-bred, that sells well now, and is likely to sell better in the future, in London.

Woolgrowers must bear in mind that the production of coarse Lincoln fleeces has increased enormously in South America, and with its large area of rich alluvial plains, capable when sown with lucerne of carrying four and five sheep to the acre, the production of coarse Lincoln wool will probably exceed the demand, and cause its value to sink far below the value of the fine half-bred

Leicester. At present, about half of last year's clip is lying unsold in the warehouses of the River Plate, and the price of coarse Lincoln fleece has been falling in the London market, whilst at the same sales fine half-bred is rising in value. The comparative shortness of the supply of merino wool has no doubt accentuated this difference.

Then meat growers will recognise that a small, meaty carcase, short and plump in the leg, is most desired in the meat market, and (excepting the Southdown) the English Leicester fulfils these requirements better than any other cross. As a lamb, the English Leicester, three-quarter bred cross, at four to five months old, will weigh about 36 lb., and cut a fleece of about 3 lb. When skinned and dressed the legs look as short and full as those of the Downs, and are practically not distinguishable. The fleece is one-fourth more valuable, and the culls will sell for a shilling apiece more—two great considerations. As a two-tooth, no sheep, not even the Down, will mature earlier or fatten on less feed, and the mutton carcase will weigh, according to age and condition, from 50 lb. to 60 lb., the very primest weight for the Home market.

I advise growing a small type of English Leicester, smaller and woollier than that grown in England, as wool is of more importance here than there, and the smaller and dumpier the sheep is the better I like it. A large sheep must consume more food than a small one, and wants more shepherding, whilst the mutton of a large sheep is not worth so much per pound as that of a small one, and as, other things being equal, 1 lb. of food will produce as much mutton on a small sheep as on a big one, it must be more profitable to use your food on a small, meaty sheep, than on a large bony one.

As everybody in the freezing trade knows, the Canterbury factories grade their sheep as follows: L grade, under 48 lb.; A grade, 48 lb. to 56 lb.; B grade, 56 lb. to 64 lb.; C grade, 64 lb. to 72 lb.; H grade, over 72 lb. And the mutton of the A grade is worth ½d. per pound more than that of the H; or, averaging the price of the A grade at 3½d. per pound and that of the H at 3d. per pound, it is worth one-sixth more—an item every skilful meat-grower will not fail to note.

I find the best mode of managing a flock of say, ten thousand English Leicester cross sheep on a property mostly improved is to use pure English Leicester rams on half- or three-quarter-bred Leicester ewes, and, after tupping the ewes in an English-grass paddock, to keep them cheaply on tussock or old pasture until lambing; then bring them forward on to younger grass, and stock lightly until weaning, say, in January; then draft and class the lambs. About one-fourth of them should be fit for the factory, one-half should go on rape and be fattened, and the balance should be sold as culls, not being worthy of the expensive feed provided to fatten the others; or the culls, being generally small late lambs, can be left a little longer with their mothers, and when weaned kept on medium pasture until the next year, when they can follow the ewes on young grass, after the latter are put back at weaning, and then they will either fatten on the grass before the winter, or be finished on turnips, when the grass fails in May.

The above is only intended as a general sketch. Management must fit the farm; and the farmer who expects the farm to fit the management will have trouble to make both ends meet.

Reverting briefly to the other breeds, and indicating why they are not so suitable to most farmers in Canterbury as the English Leicester cross, I would say that where meat is a consideration the long shank of the Border Leicester compares badly with the short, plump leg of the English Leicester and Down breeds; and after four-tooths the fleece gets very bare on the points and thin on the back. On the other hand, I fully recognise that the Border Leicester matures early and grows a heavier carcase than the English Leicester, whilst the fleece, though not quite as heavy, is fully as fine. The Border Leicester is a better mutton than a lamb-growing animal, but it is lamb that pays best on the best lands of Canterbury.

The Romneys suit the rank, moist, bush and swamp lands of the North Island, teeming with lung-worm and foot-rot, and withstand the severity of the

Southland climate better than the English Leicester, and are generally more hardy, and fully as good mothers, but their coarse necks and bony frames do not turn out so good a quality of mutton, nor will their lambs mature as quickly on rape, or turn out such fat, plump carcases.

Coming to the Down crosses, it is difficult to find fault with the Southdown except to say that its wool is not so valuable and does not seem to blend so well with the merino as the Lincoln and Leicester do, and that the cull lambs are not worth so much in the market as those of the white-faced breeds But the Southdown ram on a longwool ewe will produce a splendid lamb for freezing purposes, short in the leg, and of the best quality. I prefer the Southdown to the Shropshire, Hampshire, and Oxford Down crosses.

I had some experience of Shropshires. They were strongly recommended by Mr. John Grigg, and I bought rams from him for 8,000 merino and half-bred ewes at Tipapa, and marked 8,008 lambs from them, a splendid percentage on tussock country. I fattened about one-third, sold about one-third as culls for miserable prices (about 3s. each), and kept the medium lambs on as two-tooths; fattened some off on turnips, and sold some as store sheep. I followed this plan for three years, gradually substituting half- and three-quarter-bred ewes for the merinos, until by degrees all the merinos were got rid of. Both with the crossbreds as with the merinos I consider the Shropshires were a failure, and I lost about £500 per annum on this plan. At Woodbank I had another flock of about twelve thousand that I used Border Leicester rams with; at Island Farm a flock of eight thousand, on which I used the English Leicester; and at Tarndale (a back country flock of about forty thousand) on the older ewes I also used English Leicesters, so that I have had some experience with these breeds, and the experience you pay for is always the best.

At the same time many sheep-farmers in other localities may find their experiences different from mine, and I only give your readers the benefit of mine for what it is worth, at your request, and without in any way attempting to pose as an authority amongst men of greater experience and skill than I possess.

HORSE-BREEDING.

The climate of New Zealand is admirably adapted for the breeding and rearing of horses of all kinds, especially draught-horses. Indeed it would be difficult to find better Clydesdale horses than those bred on the limestone soils of Oamaru and elsewhere. Some of the best blue-blood of this breed has from time to time been imported from Scotland, with the result that the breed is now well established in the colony.

The light-horse stock of the colony has risen into note through the production of animals which have rendered themselves famous on the colonial turf. The demand for horses suitable for remounts for the cavalry service in India is a continuous one, affording a ready market for the proper stamp of animal. Shipments have from time to time been made to that country. The importation, however, of a few really good sires for the production of carriage-horses, hunters, and hacks would be a national benefit.

CATTLE.

The colony possesses all the best strains of blood, and this is evidenced by the superior class of cattle to be met with throughout the settled districts, especially in the show yards. There are two Herd-books published by the Canterbury Agricultural and Pastoral Association—one for shorthorns, the other for breeds other than shorthorns. The value of properly kept herd-books is now fully recognised in South America, as all imported stud animals are required to be registered in some herd- or stud-book. New Zealand is free from any of the diseases so disastrous to horned stock in other countries. It is said that Iceland is the only other spot on the earth which enjoys the same immunity. With a view to maintaining this enviable position, the Government have prohibited vessels carrying live-stock from infected colonies touching at any of the ports of New Zealand except under certain conditions. This action is deemed necessary, owing to the prevalence of pleuro-pneumonia in Australia.

DAIRY STOCK.

The breeding of first-class dairy stock offers a field for profitable investment. Milking-cattle now command a fair price, and will continue to do so. The rearing of well-bred heifer calves will repay all the time and trouble bestowed thereon. They must, however, be of exceptionally good quality and from fine milking strains. Separated milk, although relieved of its butter-fat, loses little of its feeding value; the addition of a little linseed meal will restore the fatty constituents, which, however, are not the most valuable for feeding purposes. Ground oats, wheat, or barley added to the linseed mucilage will render calves fit for the butcher in a comparatively short time. An acre or so of European flax should be grown upon every farm where stock-rearing is carried on. The fattening of calves for export has not yet been attempted in the colony, although there is a very large and lucrative market for veal calves in London, ranging from £4 to £6 and £7 per head. Much has still to be done in the way of improving the dairy stock of the colony. The yield of milk from fairly good milking-cattle is approximately 500 gal. per annum, although 700 gal. per head are frequently obtained from selected herds. The average quantity of milk obtained will no doubt be increased as more attention is paid to breeding, and proper feeding. The general management and feeding of dairy stock is a question demanding immediate attention. Kind treatment is essential to success; clean pastures, clear running water, and grasses of the best quality are all factors, fully recognised wherever dairying is successfully carried out.

The average yield of butter from milk passed through the separator is 1 lb. for every 2½ gal. of milk of 10¼ lb.; so that the average cow produces annually 200 lb. of butter, or 500 lb. of cheese, which, estimated at 4½d. per pound, will be worth about as much as the butter.

THE DAIRY INDUSTRY.

The following figures furnish an index to the importance of the dairy industry: The export of butter from the colony for the year ending the 31st March, 1899, amounted to 102,481 cwt., valued at £433,491. The export of cheese for the same period was 50,490 cwt., value £100,983, or a grand total of £534,474. It will thus be seen that this business has now developed into one of the settled industries of the colony, the Government having spent considerable sums of money in the introduction of dairy experts, whose business is to instruct the dairy farmers and factory-owners in all the most approved methods of butter and cheese manufacture. Graders are employed examining all butter and cheese for export, who brand each packet with its proper quality. Factory-owners now recognise the fact that it is folly to pay freight on any but the best quality; and this remark applies to grain and meat as well. We have to compete against Canada, the United States, Denmark, Australia, and the Argentine. New Zealand dairymen must, therefore, endeavour to raise dairy cattle which will yield the maximum of milk of the best quality; in fact, nothing but intense farming will pay in the future, applied to every branch. Factory-owners must acquire a knowledge of the chemistry of their business.

The Danish Government maintains a splendid laboratory and staff of professors, chiefly for the study of ferment in butter and milk; and almost all the milk sold is pasteurised. Everything connected with the industry is conducted on scientific principles. The object of sterilising or pasteurising milk is to destroy the germs of diseases such as tuberculosis, &c. At the present time there appears to be a craze almost amounting to a panic as regards the danger of using the milk of cows affected with tuberculosis. How far the danger extends is difficult to determine. Be this as it may, the sterilising of milk is a wise precaution. The operation consists of heating milk up to a certain temperature, and cooling it rapidly, a process which has been found to destroy the bacillus of tuberculosis known to be present in the milk of affected cattle. The Government veterinary surgeons are employed examining all suspected cattle, and treating them with the tuberculine test. Mr. Gilruth, the Government veterinary surgeon, has tested a large number of cattle throughout the colony for this disease, and in some cases cattle have been destroyed. At the recommendation of the Agricultural Conference Government has been asked to pay the owner of stock so destroyed one-half the value of the animal at the time of its death, which cannot be very much. The following extract from Mr. G. Pentland's (Stock Inspector) report to the Minister of Agriculture in Victoria is interesting and instructive. He says that "tuberculosis is not confined to cattle or man, but it attacks other animals as well—notably the pig, and poultry—and sanitary precautions should be extended as far as practicable in each case, as there is a risk of infection being conveyed from one to the other, from animals to man and from man to animals. Sunlight is very destructive to the bacilli of tuberculosis, and it therefore follows that all milking-sheds and -yards should be in the best possible position, as the success of minimising tuberculosis will greatly depend upon well-devised sanitary arrangements. All tested animals slaughtered and found to be badly affected should be burned, and not given to pigs and other animals. From a number of experiments made it has been found that injections of tuberculine have no bad effect on the quantity or quality of milk; whilst, on the other hand, it is stated by some experts that it will be safer not to use the milk until twenty-four hours have elapsed after injecting the tuberculine. Cows with tuberculous udders should be forthwith slaughtered and their carcases burned. The suppression of tuberculosis is imperative, and the co-operation of stockowners, in their own interests, will be the principal means to this end."

PIGS.

These useful adjuncts to the dairy should hold a very important position on almost all arable farms. The favourite breed in New Zealand is the improved Berkshire. The large and small breeds of White Yorkshire are also to be met with, but are not so generally approved of as the black pigs. The Tamworth pig has grown in favour with pig-breeders, as they answer admirably for crossing with black pigs. They are sought after for producing bacon pigs, making more lean meat and longer sides than the pure Berkshires. Pigs require no better attention than a good grass paddock, with a liberal supply of roots, and a little unthreshed pea-haulm for a few weeks before killing, with plenty of water, and shelter from the sun during the warmest summer months.

The breeding, rearing, and fattening of pigs is a source of wealth which is capable of considerable expansion. Several plants for the mild curing of bacon have been set up at the various freezing-factories, and by private persons and firms, many of whom are prepared to purchase an almost unlimited number of suitable animals, at prices which should prove remunerative to the grower. The establishment of properly appointed pig-farms is a somewhat costly undertaking, as all the fences must be pig-proof. Doubtless this consideration has had a deterrent effect upon some, while others find the breeding of lambs a sufficiently profitable undertaking, besides causing much less trouble. The industry is growing with the increased demand and the satisfactory prices offered for properly fed pigs. There is, however, room for an enormous expansion of this branch of rural industry.

THE FRUIT INDUSTRY.

From the North Cape to the Bluff Hill, in the extreme south of the Middle Island, the climate and soil are, for the most part, eminently adapted for the growth of a large variety of fruits. Generally speaking, pears, plums, quinces, apricots, figs, walnuts, cherries, gooseberries, currants, strawberries, and raspberries grow luxuriantly, producing abundant crops of fruit. In the Auckland District, oranges, lemons, and limes flourish: many groves are now bearing, and afford light and pleasant employment to a large number of persons. This employment will go on increasing as the trees become older. The olive flourishes in the North Island, bearing heavy crops, and the manufacture of oil will assume important dimensions at no distant date.

Vine-growing is also carried on with tolerable success in many districts; tons of fruit grown under glass are sold in the Auckland markets annually. Signor Bragato, an Italian wine expert, who visited this colony in 1895, gave it as his opinion that there are numerous localities in both Islands admirably suited for growing vines for the manufacture of wine and raisins.

Away in the far north the banana grows and ripens its fruit, but it is not thought that it will ever enter into successful competition with those imported at so cheap a rate from the Pacific Islands.

Extensive orchards of apples have existed in Auckland for many years, and are still capable of producing an abundance of fruit, if kept free from codlin-moth and other pests. Orchard-planting is progressing, and must one day be a very important industry. Central Otago will also become a large fruit-producing district, being free from violent and scorching north-west winds. All the fruits of the temperate zones flourish there; all that is required is a light railway to tap the district.

The manufacture of cider is already assuming considerable dimensions, opening up a ready market for surplus fruit. The colonial-made article is rapidly coming into favour with the general public.

The drying of fruit has been fostered by the Government, who sent an expert through some of the apple-growing districts, giving practical lessons in the art of artificial fruit-drying. A great deal might also be done in bottling fruits, and the manufacture of fruit-wine, if only for home consumption. These are industries hardly yet touched, but as the orchards mature they may be expected to expand.

The manufacture of jam is carried on with much success, but there is plenty of room for further development in this industry.

EXPORTING APPLES.

This trade has not yet assumed any great dimensions. New Zealand orchardists might well take a lesson from their brethren in Tasmania, who have developed a large trade with the London market. Growers must, however, be reminded that it is folly to ship anything but the choicest varieties of dessert- and keeping-apples. A few growers resident in Canterbury have this season shipped to the London market 2,000 cases of selected apples in a cool chamber. Should this prove a success the development of the trade is assured.

Before the planting of fruit-trees was commenced on a large scale, with a view to the export trade, little attention was paid to the varieties selected. The result is that many bearing trees have proved unsuitable to the new requirements, and are now being cut down and regrafted or replaced with more suitable kinds. According to latest advices, the following varieties of apples are said to be in good demand in the London market, always commanding a quick sale at good prices: Ribstone Pippin, Cox's Orange Pippin, Waltham

Abbey, Sturmer Pippin, Scarlet Pearmain, Adam's Pearmain, and New York Pippin. The soil best adapted for growing apples is a strong loam with a clay subsoil; but they will thrive in almost any kind of soil, provided it is in good heart and that water does not stagnate in the subsoil.

Owing to the comparative mildness of the New Zealand climate all kinds of fruit-trees are forced into bearing at an earlier period than in Great Britain.

TREE-PLANTING.

With a view to encourage the planting of trees, the Government some four years ago introduced the popular American institution of Arbor Day. It is, however, a matter for regret that New Zealand settlers have not as yet entered into the spirit of the institution, as it was hoped they would. Millions of trees have been planted in this way in the United States. Our native forests are fast disappearing before the woodman's axe; it is only a question of time and supplies will have to be drawn from artificial forests, or from foreign sources. Deciduous trees, such as ash, elm, and beech, should be largely planted. A small quantity of ash grown in Canterbury has already come into use for coachbuilding, and has been pronounced by competent experts to be of excellent quality. Plantations of larch might advantageously be made on the southern slopes of the foot-hills skirting the Canterbury Plains and elsewhere. There can be no doubt that a demand will arise for large quantities of larch-poles for mining purposes, &c. The much-despised *Pinus insignis* has a value far beyond what it gets credit for. Its timber is admirably adapted for the manufacture of fruit-cases. On fairly good land it will come into use in less than twenty years. It will also be found suitable for making butter-boxes. The wood, if selected and properly dried, is perfectly free from resin of any kind. A day of retribution will most assuredly overtake this colony for the persistent neglect to plant trees, to compensate in some degree for the wholesale denudation of our native forests. In Canterbury especially the work has been grossly neglected. Had proper attention been paid to this question by the early settlers the plains of Canterbury would not be so easily swept by north-west winds. The rainfall would be increased, and the moisture in soils would not be so easily evaporated during the summer months.

The following interesting paper on tree-planting is by Mr. T. W. Adams, Greendale, Canterbury, who is an enthusiast on the subject. After introducing his subject, he goes on to say that,—

> There are but few persons who do not admit the value of plantations, and I think it would be superfluous to take much time in showing the advantages to be gained by planting shelter-belts; we only require for once to see the sheep during a snowstorm snugly protected by a good belt of pines to appreciate what they are worth to the poor animals. And now that the gorse hedges are dying in all directions those who have plantations find them extremely convenient, not only for repairing the dying fences, but also for stakes for dividing turnips, as well as fuel for the house; and if every farm on the less-valuable portions of Canterbury had been judiciously planted, or sown with forest-trees to the extent

of one-tenth of the area, before the land had been cropped at all, I venture to say it would keep as many sheep on the nine-tenths, with the plantation to shelter the sheep from the cold, as it would on the whole without the plantation. Every stockowner knows what a large amount of food is required to keep animals in condition when they are exposed to the winter's cold; and then I think, however practical we may be, none of us are quite insensible to the beauty or otherwise of our surroundings. It should be the aim of every land-holder not only to make money out of the farm for his necessary wants, but he should try and make the home attractive by judicious planting of fruit- and forest-trees for the comfort and enjoyment of his family. Children brought up on a farm with plenty of trees to shelter them, and an orchard of good fruits for them to enjoy, will have much to make them content with a country life; in the cultivation of these things they are likely to find much to interest them, and when in time they leave their homes it will be with happy memories of the past. And so we strongly recommend the planting of trees, fruitful, useful, and ornamental. The Scotch laird is said to have advised his son to "be aye sticking in a tree," as it would be growing while he was sleeping.

That plantations are useful to supply fuel, valuable for shelter, and pleasant to look upon few will dispute, but we cannot so confidently assert that they improve the climate of a dry country by causing an increased rainfall. "Whether is the rain the mother of the forest" or "the forest the parent of the rain" is still a debatable subject, and a person may hold either theory and still have good authority for his view of the matter. Our own idea is that the rain causes the forest, and that trees to only a very small extent influence the amount of rainfall in any locality, but we think that trees are very valuable by their shade in preventing the too-rapid evaporation of the rain from the earth. We all know how much longer the grass remains damp in a plantation, caused partly by the shade and partly by the stillness of the air; a room will be much sooner dried if we open the windows and let the air pass through; and so if we cut down the trees the wind passing over the ground will more quickly dry it. Also, the decaying leaves and sticks, with the moss and other spongy substances found at the base of the trees, all hold the water from rushing unchecked off the soil, and thus causing streams to be more permanent in a wooded than in an unwooded district; therefore, although trees may not increase the amount of rain but to a small amount in a given locality, they undoubtedly are very beneficial in conserving it, and making more of it available for the use of man and beast.

But it is possible that trees do make a considerable difference in the amount of rainfall in a country. Certain it is that persons living in what were formerly bush districts generally hold that there is less rain than there used to be when the bush was standing.

Objection is sometimes made to the planting of trees, on the ground that the trees harbour sparrows and other destructive birds, and it cannot be denied that near the homesteads the birds do use the trees for nesting; but in plantations removed from the home but very few will be found, and we venture to say that more sparrows' and linnets' nests may be found in a mile of gorse hedge than in 20 acres of trees.

There are some who would like to have planted more trees but have been discouraged from further planting through having bought unsuitable trees at the start. There are trees that look all that is beautiful when growing on the rich and well-cultivated soil of the nursury that would be utterly useless for either shelter or ornament if planted on the poorer land usually given to trees.

Some think that planting is too expensive, and say that planting is not profitable; others have heard the old saw which says, "The planter of trees benefits not himself but his posterity," which is not true, at all events in New Zealand, as we who commenced to plant early have now trees fit for almost any purpose; and if it were true it is certainly well that we leave the world better than we found it, and no one can more surely do this in a material sense than by leaving portions of these plains of ours covered with valuable timbers.

We will now try and show how we think this may be done. Supposing the land in tussock, no one need be afraid of the expense, as a crop of useful trees may be raised from seed as easily as a crop of turnips, and the seed need not cost more, as seeds of *Cupressus macrocarpa*, *C. torulosa*, several species of hardy eucalypts, and acacias, and many other species of trees, may be had for the gathering, and will thrive excellently if sown by an ordinary drill, and all the better if a little fertiliser is sown with them, as with the turnips. The seed of all the different species may be mixed together, or one part of the drill may be charged with wattles, another with gums, another with cypresses. It would not be easy to raise a pine-plantation in this way, as the birds have a great taste for them and would pick all the young pines off as they came up; but a variety of shrub-seed, such as matipo, laburnum, berberry, holly, and junipers, might be added with advantage, as I have found by experience, and in one of my plantations the matipo (*Pittosporum tenuifolium*) is now very freely sowing itself; but, unfortunately, the wood of the matipo, though hard, is of very little use for stakes, as it decays very quickly. The belts sown should be at least 2 chains wide, as not only would the trees grow better, and the timber be of better quality, but the cost of fencing would be much less per acre. And here let me say it is of the utmost importance that the land set apart for trees should be well fenced; not a few of the failures in planting have been caused by a flock of sheep getting into the plantation during the early years of its growth, and unless one is prepared to put up a good fence he had better not attempt the raising of trees.

On ground that has been in cultivation, and where sorrel and other weeds are in possession, it is more difficult to get a plantation of trees started, and if cocksfoot grass is plentiful it will be necessary to destroy it before any success can be expected. On this class of land I cannot recommend sowing the seeds until the weeds are killed by a summer's fallow; or, a better way would be to raise the plants in a nursery ground, or get small plants from a nurseryman, and plant them in a specially prepared bed, there to remain until they are large enough to be planted in their permanent situations. The advantages of this plan are great, and, even when plants are received from the nursery of sufficient size, it will be found more economical to put them in a bed and keep them weeded for a season; they can then be planted out under the most favourable circumstances as to weather and season of the year, and will not fail to grow when so treated.

It is important in planting or sowing trees, if a number of species are being sown, to put such fast growers as *Pinus insignis* on the northern side of the plantation, thus allowing the slower-growing trees to get the full benefit of the rain, which usually comes from the south-west. The fast growers placed in this manner also protect the trees of slower growth from the north-west winds. In no case should *Pinus insignis* be mixed with other trees, as it very soon overtops and destroys them, but may be used with advantage to shelter others in the way I have indicated. In planting, if shelter be the first consideration, *Pinus insignis*, *P. tuberculata*, *P. patula*, *P. muricata*, and *P. Bolanderi* will be found the fastest growers, and in the order named, and the wood of all is useful for firewood. But I think we should look a little further ahead, and plant trees that will, when matured, be valuable for railway-sleepers, and other such purposes. Over two thousand sleepers are required for every mile of railway, and they require renewing every few years. It would be wise in the interests of our country, and of our families, if we plant the most valuable trees with which we are acquainted, and I know of no tree so likely to fulfil these requirements as the larch-pine (*Pinus laricio*), known also as the Corsican pine, and found growing in Greece and other parts of the south of Europe. One English writer says of it: "All things considered, it is one of the most valuable and generally useful species of the genus Pinus which has yet been planted in the British Isles, being thoroughly hardy, sound in constitution, of attaining large dimensions, and of very rapid and regular growth, and will not only grow, but will produce both quantity and quality of timber equal to any, and superior to many, of its congeners when grown under the same conditions." And this is exactly our experience of it here, and we can with confidence recommend it to planters. It is not often that trees recommended in English works are successful here, but this is an exception.

Other trees that give promise of success are *Pinus ponderosa*, *P. austriaca*, *P. coulteri*, *P. sabiniana*, *P. pungeous*, *P. rigida*, *P. pineaster*, and *P. benthamiana*, *Cupressus knighti*, *C. torulosa*, and *C. benthamiana*, *Cedrus atlantica*, *Libocedrus decurrens*, *Picea pinsapo*, *P. nordmaniana*, *P. nobilis*, and *Araucaria imbricata*. All these, I think, will grow fairly well on the ordinary thin soils of the plains. Along the water-races, or even on the south side of the plantations, other trees will grow, as the various spruces, oaks, elms, walnut, chestnut, ash, and larch, but only well within reach of water, except on the best land, and persons owning the better land will not be disposed to put much of it in trees. Nor is it desirable that it should be planted, except in limited areas around the buildings, and then only with choice trees, instead of the willow, poplar, and *Pinus insignis* everywhere to be seen. The trees should have plenty of room to develop themselves, and the spaces betwixt them should be filled with shrubs, such as the laurel, holly, lauristina, guelder-rose, *Azara macrophylla*, juniper, *Choysa ternata*, matipo, arbutus, magnolia, rhododendron, and *Euonymus fimbriata*. These are twelve hardy shrubs—distinct, and beautiful. The twelve trees that I shall recommend are *Araucaria imbricata* or monkey puzzle, *Abies douglassi*, *Cedrus deodara*, horse chestnut, *Cupressus lawsoniana*, *C. sempervirens*, *C. torulosa*, *Picea nobilis*, *P. nordmaniana*, and *P. pinsapo*, *Retinospora leptoclada*, and *Thuja gigantea*. These twenty-four plants can, with the exception, perhaps, of *Picea nobilis*, all be obtained of any of our leading nurserymen, and are the cream of trees and shrubs suitable for a farmer's homestead.

Before closing this paper I would like to correct a common mistake about our native trees, to the effect that they are difficult to transplant. Such is not the case, and several of them may be successfully grown, as the kowai and matipos, from seed; the black-birch and white-pine, from plants collected in the bush, and the totara may be raised quite readily from cuttings. Others, as the akeake, broadleaf, and lancewood, may all be grown, but they cannot endure long droughts in the central parts of the plains. They would do well near the sea as at New Brighton; and the sandhills all along our New Zealand coasts appear to me to be crying out for trees. With the experience gained in France, no time should be lost before a determined effort is made to stop the drifting inland of the sand on our coasts. It is only a little over a hundred years, or in 1789, when the first national attempt was made on the shores of the Bay of Biscay to stop the further inroads of the sand by means of plantations of broom, *Pinus pineaster*, and the cork oak. Now these very protective works have become the source of great wealth, thousands of persons finding employment in charcoal-burning, cork-cutting, and in collecting turpentine, resin, and pitch. The broom, *Pinus pineaster*, and the cork oak all grow well here, and nothing is needed but the same public spirit and foresight to begin the work which induced Minister Neckar in a time of great financial straits to commence the work in France.

Prospects of Small Farmers.

Those who have watched the course of events in other countries, so far as they affect the agricultural interests of New Zealand, have come to the conclusion that New Zealand will have to pay greater attention to the quality of her agricultural exports than has been given to them in the past. Our farmers cannot hope to compete with such countries as Australia and South America, where land is so much cheaper, and where mutton and beef of good quality can be produced; for cheap meat these must command the markets of the world. Happily for New Zealand, our climate and pastures are such that we can not only produce mutton equal to the finest English or Scotch, but we can produce more per acre than can be done in Australia. Our dairy-produce is now second to none, owing to the

Government instructors and graders, and the factories where the article can be made uniformly good.

Owing to her humid climate and fertile soil New Zealand is peculiarly well adapted for small holdings. Men of slender means can easily make homes for themselves and their families, always provided they know something of the work they undertake, and are, with their families, willing to work hard and live frugally for a few years. It is quite possible for a man with a few cows and pigs, together with poultry and bees, to make a good living, as markets for these products are now being opened up in England, and there is a good local market if the goods are properly prepared. There is also a continuous demand for the supply of coastal and ocean-going steamers. The facilities now given for obtaining land and money at reasonable rates offer great inducements to persons to settle upon the land. This is amply illustrated at Cheviot, where a fine estate has been cut up into moderate-sized farms, and let to farmers on perpetual lease at a rental representing 4 per cent. on the purchase-money. Prosperous homes are springing up all over the settlement. Its success will be assured when the proposed line is completed, connecting the settlement by rail with the local markets and the port of shipment. There are thousands of acres in the North Island adapted for farming, and much land there is being taken up.

CONCLUSION.

An attempt has been made in the foregoing pages to set before the readers of the Year-book an unvarnished statement of the condition of things in the colony from an agricultural and pastoral standpoint, which prove conclusively that as a country for settlement New Zealand is not surpassed by any British possession, being one where the industrious man with moderate means can live with much comfort. The land, it is true, is dearer in some districts than that which may be found in South America, South Africa, or Canada, but this difference in price is far outweighed by other considerations, such as superiority of climate, and security to life and property. Pit these advantages against the insecurity of life and property in South America and South Africa, or the rigour of Canadian winters, and the balance will be immensely in favour of New Zealand. Another great advantage enjoyed by the agriculturist of New Zealand is that he is nowhere far from the seaboard, giving him the benefit of cheap carriage for his produce to the shipping ports.

The foregoing notes would hardly be complete without some reference to the prevalence of small birds. Amongst other birds, the English sparrow was introduced to New Zealand some five and twenty years ago. Many of the early settlers remember his first appearance, and the pleasurable feeling elicited by the sound of his once familiar chirp, awakening reminiscences of the Old Land. New Zealand is singularly destitute of the feathered enemies of small birds, and, owing to this and the genial climate, the sparrow and other birds have long since become so numerous that drastic methods have to be adopted to preserve the balance of power. Large sums of money are paid annually by the Road Boards for the destruction of small birds. The want, however, of concerted action on the part of farmers at the time of poisoning is responsible for the undue increase of the pest. While treating small birds as pests, it must not, however, be forgotten that before their advent farmers suffered very heavy losses from the periodical attacks of caterpillars, which frequently devastated their barley-and oat-crops, and that the birds are the farmers' friends in this matter. It must also be remembered that the birds live for about nine months in the year on insects and seeds of weeds; so that if accounts could be squared they would not be such debtors after all. All that can now be done is to keep them in check.

NEW ZEALAND FORESTS AND THE TIMBER INDUSTRY.

[Reprinted by special request.]

If the relative importance of the various branches of colonial industry be determined by the value of the output of each, the timber industry occupies the fourth place; but, if it be based on the amount of remunerative employment afforded by each, this industry occupies nearly the first place. The number of saw-mills in working order at the date of the census (1896) was: In the North Island, 155, employing 2,652 persons; and in the South Island, 144, affording employment to 1,407 persons—a total of 299 mills, requiring the services of 4,059 persons. But this number does not nearly represent the amount of labour employed, as many men engaged in the preliminary work of felling, logging, hauling, building dams, laying tramways, &c., are returned as "bushmen," "contractors," "drivers," &c., without anything to show that they are directly connected with saw-mill work. If these be added, the number of persons employed will certainly be greatly increased. Further, in some districts large quantities of sawn or hewn logs are conveyed to the mills by rail or by coasting-craft; while, in all alike, round or sawn timber constitutes one of the largest items of railway-freight, and in this way gives employment to many more.

General Character of the Forest.

The character of the forest varies greatly in different localities, according to the kind of trees composing it and the degree of luxuriance which they attain. New Zealand forests are usually of a mixed character, some one or two kinds predominating to a greater or less extent. It is but rarely that large areas of forest consist of a single species only; but there are noteworthy exceptions—thus, the mountain forests consist of mountain-beech exclusively; the Oxford and Alford Forests of entire-leaved beech; some large areas are altogether covered with tawa; kahikatea forms uniform forests in swampy districts, and smaller areas are occasionally found containing nothing but kauri. Still, the great bulk of the forest is of a mixed character. This renders it difficult to lay down well-defined areas for the principal timbers, more especially as most of the trees are generally distributed through the colony. Nevertheless, certain districts may be roughly defined according to the prevailing tree or trees, although the boundaries must of necessity be somewhat vague.

(1.) *The Kauri District.*

This may be defined as that part of the colony lying north of a line drawn from Tauranga to Port Waikato, the kauri being the predominating tree over large portions of the area. In some parts only single trees are found, in others they occur in clumps or groups, sometimes forming extensive groves, or even large blocks, almost to the exclusion of all other trees. Most frequently the kauri will be found mixed with rimu, kahikatea, tanekaha, miro, totara, totara-kiri-kotukutuku, northern rata, puriri, tawa, tarairi, matai, and many other trees, the tawa, as a rule, being most abundant. The nikau, or southern palm, is plentiful all through the district, and is everywhere accompanied by noble tree-ferns and palm-lilies. The underwood is composed of numerous shrubs, and the ground is carpeted with a rich growth of delicate filmy ferns. A large kauri forest is one of the grandest sights to be found in the entire range of the vegetable kingdom; massive columnar trunks, 4 ft. to 8 ft. in diameter, clothed with smooth grey bark, rise close together often to the height of a hundred feet or more, their spreading arms and deep-green leaves presenting a picture of the greatest luxuriance and vigour. At the base of each tree is a large mound of humus, formed by the decay of bark through successive centuries. The surface soil as well as the humus is charged with resin that has exuded from the fallen leaves or twigs. Some of the most ancient specimens are among the oldest trees in the world, and must have originated in a period long before the Christian era, yet they still exhibit all the life and exuberance of early youth.

In the extensive swamps by the Northern Wairoa and other rivers the kahikatea forms forests of a remarkable character. The uniformly straight naked trunks often exceed a hundred feet in height, carry very short branches at their tops, and are so close together that at the distance of a few yards the view is completely blocked, and nothing is to be seen but the column-like trunks from 2 ft. to 5 ft. in diameter; the undergrowth being insignificant.

(2.) *The Totara District.*

Although the totara is distributed throughout the colony, it occurs in larger masses in the central portions of the North Island, more especially on the eastern side. Large areas, in which it is the prevailing tree, are found in many parts south of the Lower Waikato, more especially in the southern parts of Hawke's Bay, the northern portion of the Wellington District, and the Seventy-mile Bush. In a large portion of the area the totara is sparsely scattered, and even when most dense is usually intermixed with rimu, tawa, totara-kiri-kotukutuku, kamahi, hinau, kahikatea and other trees. Unlike the kauri, the bark of the totara is of a deep brown colour and much furrowed, while the short narrow leaves are of a brownish-green. Amongst the most conspicuous trees of this area there are two worthy of special mention, the northern rata and the black maire, which occur in vast abundance in many localities. The former is often found with a distorted trunk of gigantic dimensions clothed with rough brown bark. The latter has a pale bark, and yields a timber remarkable alike for its density, strength, and durability. Large portions of the forest, especially on the western side, consist chiefly of tawa, rimu, and kihikatea, which are extensively converted throughout the district, the first-named for dairy-ware and butter-kegs, the two latter for building and general purposes. Tooth-leaved beech, entire-leaved beech, and silver-beech are plentiful on the lower slopes of the mountains, but rarely descend to the sea-level, while mountain-beech forms the bulk of the forest at high levels. Rimu and kahikatea are the chief timbers of the moist forests in the valleys of the Manawatu, Rangitikei, and Wairarapa.

(3.) *The Red-pine District.*

This might be termed the low-land pine district of the South Island, as practically it comprises all the forest country in that island below a level of 1,000 ft. Although in nearly all localities the forest is of a mixed character, yet from Marlborough to Stewart Island the rimu must be considered the predominating tree, and is the most extensively converted. The kahikatea stands next in abundance, and is closely approached by the kamahi, while the miro, matai, totara, Hall's totara, are generally distributed; but the northern rata and pukatea scarcely occur south of Greymouth. The Westland silver-pine, yellow silver-pine, and quintinia, although not peculiar to Westland, are more abundant there than in any other part of the colony; while the southern rata, which extends to Stewart Island, is especially plentiful in the Tautuku Forest, where it attains very large dimensions. Cedar, or pahautea, pokaka, and hinau are not unfrequent, while most of the beeches are plentiful, especially in the southern parts of the district. The undergrowth contains a large variety of shrubs or small trees, many of which afford timbers suitable for ornamental cabinet-work and inlaying.

Much of the rimu and kahikatea in the south-western portion of the Nelson District, and in Westland, is of great height, and very well-grown, in some cases yielding 80,000 superficial feet of converted timber per acre.

The area of heavy forest on the eastern side of the South Island is small; the inland Oxford and Alford Forests consisting chiefly of entire-leaved beech.

(4.) *The Beech District.*

This may be roughly defined as that portion of the South Island between 1,000 ft. and 4,000 ft. in altitude, for, although the rimu and kahikatea are often found above 1,000 ft., yet they rarely occur in any great quantity, or exhibit great luxuriance; so, on the other hand, the different beeches occasionally descend even to the sea-level, although rarely forming any large portion of the forest at extremely low levels. The most valuable forest-tree is the tooth-leaved beech, which attains exceptional luxuriance and large dimensions in the neighbourhood of Te Anau Lake, and many other localities. Silver-beech and entire-leaved-beech are found as far south as Preservation Inlet and the Tautuku Forest, while the mountain-beech prefers higher levels, although occasionally a few specimens descend to the rimu district. None of the beeches extend to Stewart Island, which in many parts is covered with a dense growth of rimu, kamahi, and rata, the kahikatea being extremely rare.

AREA OF FOREST LAND.

The following statement of the approximate areas still under forest was published in the report of the Survey Department for the year ending 31st March, 1893:—

	Acres.
Auckland Land District—	
North of Auckland	1,800,000
South "	3,420,000
Taranaki	1,850,000
Hawke's Bay	1,900,000
Wellington	3,400,000
Marlborough	400,000
Nelson	3,240,000
Westland	2,394,000
Canterbury	492,000
Otago	1,182,000
Southland	500,000
	20,578,000

The State forest reserves, including those made for climatic purposes, comprised 1,150,918 acres on 31st March, 1896.

EXPLOITATION AND CONVERSION.

The trees are felled and cross-cut into suitable lengths for conversion, the logs being conveyed to the mill by flotation, by tram-line, or, more rarely, hauled by oxen or horses.

Flotation is the method most commonly used in the kauri districts, which are much broken by deep gullies and small streams, opening into tidal creeks. After the trunks are cut into lengths, a "rolling-road" is formed to the nearest creek. All the scrub is closely cut down for a width of from twenty-five to thirty feet, and all stumps are removed, while inequalities are reduced so as to obtain an approximately even surface, inclined towards the creek. The logs are forced along this road by timber-jacks, which the bushmen use with remarkable skill, and are impelled with a rapidity which is simply astonishing to persons unused to the process. If the creek contains plenty of water the logs float to the nearest booms without further trouble, and are drawn out of the water as required, but in many cases the creek does not contain sufficient water to float the logs, and then they are left until heavy rains afford the requisite depth. Often it is necessary to construct costly dams to impound the water in the upper parts of the creek, in order that it may be suddenly liberated when the water in the lower parts is at its greatest depth, so that the entire assemblage of logs may be "driven" to the booms. In dry seasons the logs may remain in the bed of the creek for months, and, occasionally, after a successful "drive," the harvest of logs is carried out to sea and lost, the booms breaking from the immense pressure behind them. Kauri-logs, thus set free, often drift to the coast of the Kermadec Islands, nearly seven hundred miles north-east of the Hauraki Gulf. Tram-lines are less common in the kauri district than in the southern parts of the colony.

In portions of the Taranaki District, where milling timber is somewhat sparse, timber-wheels are commonly used; but in nearly all places where milling timber is plentiful a tramway is constructed. Kamahi, or other common timbers are used for sleepers. Rails are sawn out of better stuff, and laid in notches cut in the sleepers, being tightly fixed by wooden wedges. Haulage is usually effected by horse-power, but in some cases the tramway is built in a more substantial manner, light steel rails being used instead of wood, and the logs are hauled by a steam motor. The maximum proportion of tramway required is half a chain per acre. Loading places are constructed alongside the line, at a distance of twenty or thirty chains apart, to which the logs are hauled by oxen. If of large size, the timber-jack is employed to facilitate loading. It is not considered profitable to haul logs from a greater distance than ten chains on either side of the tramway. It is in the Southland forests, where there is a large extent of comparatively level land, that the tramway is most used.

The sawmill is usually worked by steam power, rarely by water, and may vary from the magnificent mills of the Auckland District to the small portable engine and movable saw-bench commonly seen in a block newly opened for settlement. For their completeness, and the quality of their machinery, the Auckland mills are equal to any in the world. They are fitted with vertical breaking-down saws, capable of dividing the largest logs into halves or flitches, as may be required; vertical frame-saws for converting the flitches into boards, and circular-saw benches having rack-adjustments for the conversion of scantling. Planing machines of the best pattern, tonguing and grooving machinery, moulding machines, as well as machines for the manufacture of doors and sashes, coopers' staves, gates, wheelwrights' stuff, &c., &c., are to be seen on all sides. Some of the mills are furnished with the electric light, so as to allow of work being carried on through the night when required, and in a few cases arrangements are made for seasoning converted timber by the hot air process. In the totara and rimu districts the mills are less complex, of smaller extent, and driven by less powerful engines. Breaking-down is commonly effected by the circular saw, and in the case of very large logs by two circular saws, an upper and a lower working in the same vertical plane. Vertical frame-saws can scarcely be said to have been brought into general use, although they are becoming more common. A circular-saw bench, with rack adjustment, serves for the conversion of boards and scantling. Planing is effected by a simple machine with revolving cutters. Machines for tonguing and grooving and for moulding are to be found in nearly every mill, the former usually combined with the planing-machine. Planing-machines of a better type are coming into use, and, at one or two of the Hokitika mills, wide boards and panels, suitable for ornamental cabinet-work, are turned out by frame-saws in a style that could not be surpassed either in England or the United States.

Output and Labour.

The value of the total output of sawn timber, planed flooring and skirting, mouldings, doors, and sashes, for the entire colony during the year 1895, has been stated by the Registrar-General as £898,807. This amount is £65,848 above that of the previous census, 1891. At the census of 1891, twenty-five mills had been closed, and the number of persons employed had fallen from 5,042 to 3,266, many of the mills working even less than half-time. Since that date the trade has improved, and its volume is increased. Of the total output for 1895 the forty-nine Auckland mills contributed nearly one-half, the value of their output being £430,913, whereas the manufactures of the 250 mills in the other provincial districts were valued at £467,894. The sum paid in wages during the same year is stated at £323,223; but this includes only a portion of the amount paid to the bushmen, fellers, and others engaged in preparing the logs for conversion, as many mills purchase logs from settlers, or employ contractors, who deliver the logs at the mill at fixed rates.

The approximate value of land, buildings, machinery, and plant was returned as under: Land, £186,958; buildings, £100,667; machinery and plant, £298,797; total, £586,422.

In the kauri district, bush-hands are commonly paid 20s., or rarely 18s., per week, with board and lodgings, the accommodation in some cases being plain, but amply sufficient in so mild a climate, the board plentiful and of good quality. In some instances, married bush-hands put up a rough cottage, the larger part of the material being supplied by the manager free of cost, and sometimes enclose a small garden; in this case saving the cost of rent and firing, while securing a large amount of comfort at a minimum of expenditure. On the other hand, the cost of flour and other provisions is somewhat higher than in the towns, on account of the heavy charges for freight.

Timber Export.

The following table shows the gradual development of the export trade, and its present position :—

Year.	Sawn and Hewn Timber. Quantity. Ft.	Value. £
1875	5,225,627	26,914
1895	38,297,905	141,892
1896	34,984,414	133,511
1897	39,326,396	154,169
1898	40,721,632	164,723

By far the greater portion of exported timber consists of kauri, the proportion of other timber being almost insignificant.

Varieties of Timber-Trees.

The chief timbers and timber-trees of New Zealand may fairly be divided into three classes :—

I.—*Timbers of Great Durability and Large Dimensions, suitable for Constructive Works, House-building, or for Special Purposes.*

1. Kauri *Agathis australis*), Salisbury.
2. Totara (*Podocarpus totara*), A. Cunningham.
3. Totara-kiri-kotukutuku (*Podocarpus hallii*), T. Kirk.
4. Matai (*Podocarpus spicata*), R. Brown.
5. Kawaka (*Libocedrus doniana*), Endlicher.
6. Pahautea, or cedar (*Libocedrus bidwillii*), Hooker f.
7. Northern manoao (*Dacrydium kirkii*), F. Mueller.
8. Southern manoao (*Dacrydium colensoi*), Hooker.
9. Westland pine (*Dacrydium westlandicum*), T. Kirk.
10. Yellow silver-pine (*Dacrydium intermedium*), T. Kirk.
11. Puriri (*Vitex littoralis*), A. Cunningham.
12. Tawhai-raunui, tooth-leaved beech (*Fagus fusca*), Hooker f.
13. Tawhai-rauriki, entire-leaved beech (*Fagus solandri*), Hooker f.
14. Tawhai, Blair's beech (*Fagus blairii*), T. Kirk.
15. Maire-raunui (*Olea cunninghamii*), Hooker f.
16. Maire (*Olea lanceolata*), Hooker f.
17. Narrow-leaved maire (*Olea montana*), Hooker f.
18. The northern rata (*Metrosideros robusta*), A. Cunningham.
19. The southern rata (*Metrosideros lucida*), Menzies.
20. Pohutukawa (*Metrosideros tomentosa*), A. Cunningham.
*21. Small-leaved pohutukawa (*Metrosideros polymorpha*), Forster.
22. Manuka-rauriki (*Leptospermum ericoides*), A. Richard.
23. Maire-tawhake (*Eugenia maire*), A. Cunningham.
24. Kowhai (*Sophora tetraptera*), Aiton.

II.—*Timbers suitable for General Building Purposes, or for Special Uses, but of less Durability than the preceding kinds.*

25. Rimu, red-pine (*Dacrydium cupressinum*), Solander.
26. Kahikatea, white-pine (*Podocarpus dacrydioides*), A. Richard.
27. Miro-toromiro (*Podocarpus ferruginea*), Don.
28. Tanekaha (*Phyllocladus trichomanoides*), Don.
29. Toatoa (*Phyllocladus glauca*), Carr.
30. Mountain toatoa (*Phyllocladus alpinus*), Hooker f.
31. Tawhai-rauriki, mountain beech (*Fagus cliffortioides*), Hooker f.
32. Tawhai, silver-beech (*Fagus menziesii*), Hooker f.
33. Pukatea (*Laurelia novæ-zelandiæ*), A. Cunningham.

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* Found only in the Kermadecs.

34. Hinau (*Elæocarpus dentatus*), Vahl.
35. Pokaka (*Elæocarpus hookerianus*), Raoul.
36. Tarairi (*Beilschmiedia tarairi*), Bentham and Hooker f.
37. Tawa (*Beilschmiedia tawa*), Bentham and Hooker f.
38. Titoki, tokitoki (*Electryon excelsum*), De Candolle.
39. Tawari (*Ixerba brexioides*), A. Cunningham.
40. Mangeao, tangeao (*Litsea calicaris*), Bentham and Hooker f.
41. Rewarewa (*Knightia excelsa*), R. Brown.
42. Tawhero (*Weinmannia silvicola*), Banks and Solander.
43. Towhai, or kamahi (*Weinmannia racemosa*), Forster.
44. Porokaiwhiri (*Hedycarya dentata*), Forster.
45. Kohekohe (*Dysoxylum spectabile*), Hooker f.

III.—*Timbers of Small Dimensions, adapted to Special Purposes.*

46. Moropito (*Drimys axillaris*), Forster.
47. Tarata (*Pittosporum eugenioides*), A. Cunningham.
48. Karo (*Pittosporum crassifolium*), Banks and Solander.
49. Tawhiwhi (*Pittosporum tenuifolium*), Banks and Solander.
50. Mahoe (*Melicytus ramiflorus*), Forster.
51. Huoi, or manatu (*Plagianthus betulinus*), A. Cunningham.
52. Wharangi (*Melicope ternata*), Forster.
53. Kaikomako (*Pennantia corymbosa*), Forster.
54. Ake (*Dodonæa viscosa*), Linné.
55. Karaka (*Corynocarpus lævigata*), Forster.
56. Putaputa-weta (*Carpodetus serratus*), Forster.
57. Kumarahou (*Quintinia serrata*), A. Cunningham.
58. Makamaka (*Ackama rosæfolia*), A. Cunningham.
59. Manuka, or kahikatoa (*Leptospermum scoparium*), Forster.
60. Ramarama (*Myrtus bullata*), Banks and Solander.
61. Small-leaved ramarama (*Myrtus ralphii*), Hooker f.
62. Rohutu (*Myrtus obcordata*), Hooker f.
63. Rohutu (*Myrtus pedunculata*), Hooker f.
64. Kotukutuku, or kohutuhutu (*Fuschsia excorticata*), Linné.
65. Horoeka, lancewood (*Pseudopanax crassifolium*), Seeman.
66. Toothed lancewood (*Pseudopanax ferox*), T. Kirk.
67. Papauma (*Griselinia littoralis*), Raoul.
68. Puka (*Griselinia lucida*), Forster.
69. Tree karamu (*Coprosma arborea*), T. Kirk.
70. Yellow-wood (*Coprosma linariifolia*), Hooker f.
71. Tupari (*Olearia colensoi*), Hooker f.
72. Akeake (*Olearia traversii*), Hooker f.
73. Heketara (*Olearia cunninghamii*), Hooker f.
74. Akeake (*Olearea avicinniæfolia*), Hooker f.
75. Neinei (*Dracophyllum latifolium*), Hooker f.
76. Mountain neinei (*Dracophyllum traversii*), Hooker f.
77. Inaka (*Dracophyllum longifolium*), R. Brown.
78. Toro (*Myrsine salicina*), Heward.
79. Mapau (*Myrsine australis*), A. de Candolle.
80. Tawaapou (*Sideroxylon costatum*), Bentham and Hooker f.
81. Maire (*Fusanus cunninghamii*), Bentham and Hooker f.
82. Ngaio (*Myoporum lætum*), Banks and Solander.
83. Toru (*Persoonia toro*), A. Cunningham.
84. Milk-tree (*Paratrophis microphyllus*), Bentham and Hooker f.
85. Makomako (*Aristotelia racemosa*), Hooker f.
86. Tumatukuru (*Discaria toumatou*), Raoul.

A brief description of each of the above species will be found below. The weight per cubic foot, unless otherwise specified, is invariably for *seasoned* timber :—

Class I.

1. KAURI (*Agathis australis*), Salisbury; "Forest Flora of New Zealand," Plates 79 to 81. North Cape to Maketu and Kawhia.

This is the finest tree in New Zealand, and affords the most valuable timber. It varies from 80 ft. to 100 ft. and upwards in height, with a trunk from 3 ft. to 8 ft. in diameter; but specimens have been measured with a diameter of fully 22 ft.

The bark is smooth, of a dark-grey colour, and falls away in large flat flakes. The leaves are rather close-set, very thick and rigid, 1 in. to 3 in. long; and the handsome globular cone is nearly 3 in. in diameter.

The timber is of the highest value, and combines a larger number of good qualities in a high degree of perfection than any other pine timber in general use; for, while of great strength, it is of high durability, and unites a firm, compact texture with great silkiness, so that it is worked quite as easily as the best Quebec yellow pine.

Many logs are beautifully clouded, feathered, or mottled, and are highly valued for ornamental cabinet-work, panelling, &c., realising from £7 to £10 per 100 ft. superficial. Ordinary wood without figure is used for wharves, bridges, and constructive works generally; squared piles, railway sleepers, ship-building (especially for deck planking), house-building, fencing, and other purposes too numerous to mention.

It is exported to a greater extent than any other New Zealand timber, and affords employment to nearly one-third of the entire number of persons engaged in timber conversion. Its turpentine constitutes the valuable resin known as kauri-gum, in gathering which nearly 7,000 persons are employed.

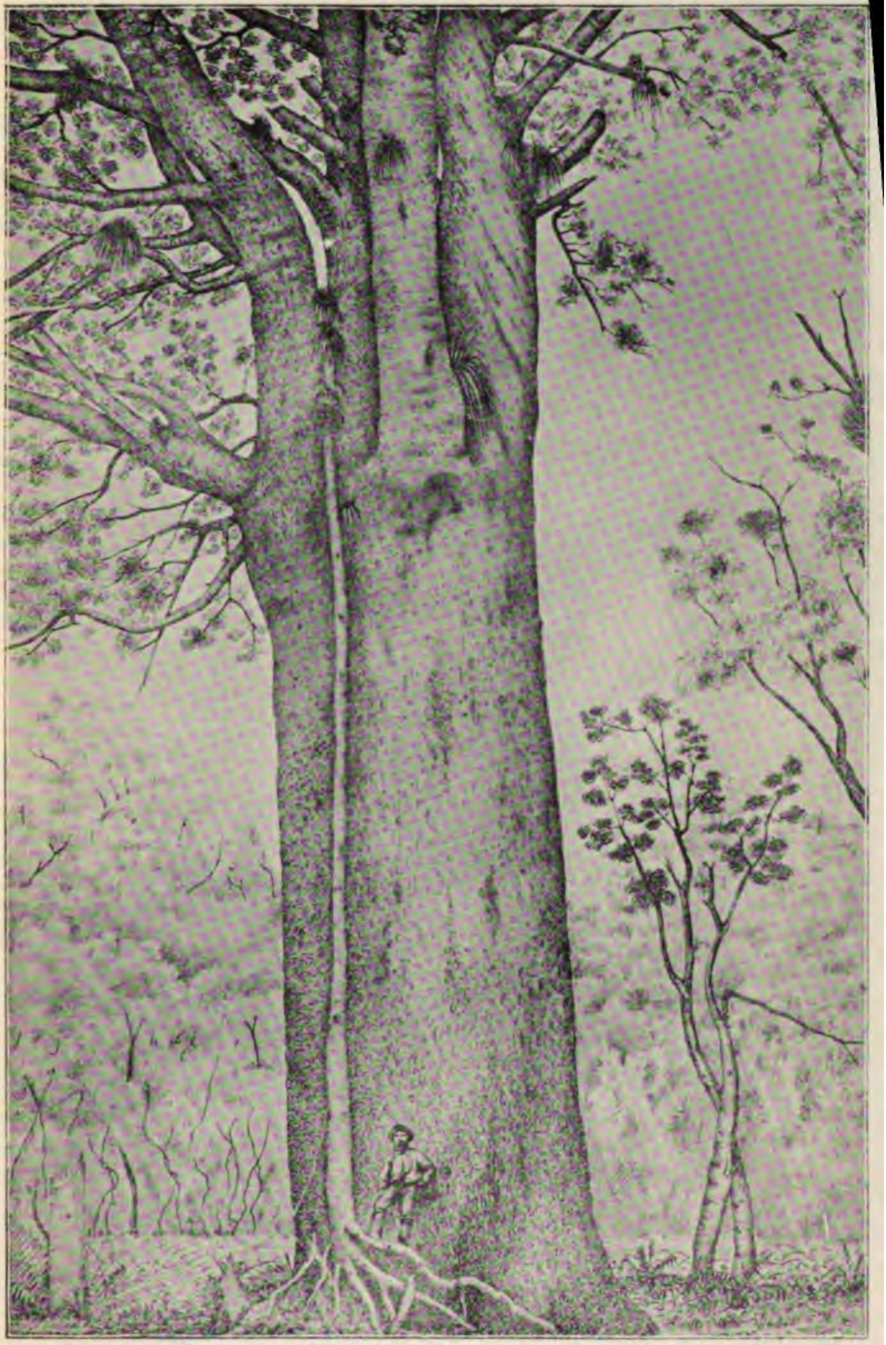
Its specific gravity varies from 0·498 to 0·700. Its relative strength when compared with English oak is as 892 to 1,000; weight per cubic foot when seasoned, 37·11 lb. to 42 lb. The mean average breaking-weight obtained from twelve specimens is 165·5 lb.

2. TOTARA (*Podocarpus totara*), A. Cunningham; "Forest Flora," Plate 115. Mongonui to Southland.

The totara stands next to the kauri for general utility, and, being more widely distributed, is by some considered of equal, or even greater, value; but, though equalling kauri in durability and the facility with which it can be worked, it is inferior in strength, and will not take so high a finish. The tree is usually from 60 ft. to 80 ft. in height, the trunk having a diameter of from 2 ft. to 6 ft., but specimens 100 ft. high, with a diameter of 8 ft., are not infrequent. The trunk is clothed with fibrous brown bark, which is deeply furrowed, and in very old specimens is fully 3 in. thick. The leaves are about ¾ in. long, linear, and of a greenish-brown tint. The wood is of a reddish brown colour, and does not warp or twist. It is clear and straight in the grain, and, therefore, easily worked. It is of extreme durability, and is largely employed for building purposes, bridges, wharves, telegraph-posts, railway-sleepers, house-blocks, fencing-posts, and various other purposes. Owing to its unrivalled power of resisting the attacks of the teredo, it is highly valued for marine piles, and is unquestionably the best timber in the colony for that purpose. Many of the large canoes of the Maoris were hewn out of a single trunk.

A well-grown totara forest has an imposing effect: majestic trunks, 60 ft. or 80 ft. to the first branch, tapering with the greatest regularity, grow so close together that very little top is developed; and the yield of first-class timber is enormous, sometimes amounting to 80,000 or even 100,000 superficial feet per acre. Usually, however, the trees are of smaller dimensions, and the trunks are often distorted, and cannot be converted without a large proportion of waste.

The specific gravity of totara is 0·559; weight per cubic foot when seasoned, 35·17 lb.; breaking-weight, 133·6 lb., the mean average of seventeen specimens.



Kauri Tree at Tararu Creek, Thames (46 ft. in circumference).

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3. TOTARA-KIRI-KOTUKUTUKU (*Podocarpus hallii*), T. Kirk; "Forest Flora," Plates 9, 9A. Mongonui to Stewart Island.

This fine tree bears a close resemblance to the preceding species, *P. totara*, but is distinguished by the larger leaves, which are from ¾ in. to 1½ in. long, and especially by the thin bark, from which its native name, Totara kiri-kotukutuku, or fuschia-barked totara, is derived. It also differs in the male catkins being carried on short stalks, and in the fruits being pointed at the apex, while in the true totara the male flowers are destitute of flower-stalks, and the fruits are rounded at the apex. The wood resembles that of the true totara, but is not of equal value for marine piles; it is, however, used for all purposes for which the true totara is employed. The Maoris of Stewart Island employ the thin bark for packing mutton-birds, which form a valuable article for exchange with the northern tribes.

4. MATAI (*Podocarpus spicata*), R. Brown; "Forest Flora," Plates 4, 5. Mongonui to Otago.

The matai or black-pine, as it is often called by settlers, is a round-headed tree with erect branches, rarely exceeding 60 ft. in height, with a trunk 2 ft. to 3 ft. in diameter, although larger specimens are occasionally met with. The leaves are close-set, about ½ in. in length, of a bright green above, but whitish beneath. The fruits are spherical, less than ½ in. in diameter, of a bright-red colour, and arranged in terminal spikes. In the young plant the branchlets are extremely slender and pendulous, with larger leaves, which are of a deep-bronze colour. The aspect differs so widely from that of the mature plant that its identity is usually denied by superficial observers. Its rate of growth is extremely slow. The timber is of a red or yellowish-brown tint; it is straight in the grain, firm, dense, heavy, of great strength and durability, while it is easily worked. It is largely employed for bridges and constructive works, house-blocks, framing, joists, weatherboards, railway-sleepers, piles, millwrights' work, bed-plates, &c., and is especially valued for the flooring of churches and other public buildings, although, on account of its hardness, it cannot be laid so quickly as other kinds. Its specific gravity varies from 0·572 to 0·792; its weight per cubic foot, when seasoned, from 46·862 lb. to 47·508 lb.; and its breaking-weight is 384·03 lb. for a piece 2 ft. long and 1 in. by 1 in., supported at each end and loaded in the centre.

5. KAWAKA (*Libocedrus doniana*), Endlicher; "Forest Flora," Plate 82. Hilly parts of the North Island, Mongonui to Taranaki.

This is also termed kaikawaka by the Maoris, but unhappily this name has been commonly applied by surveyors and bushmen to the next mentioned species. It is known to many settlers as the New Zealand *arbor vitæ*. It is a noble tree of conical outline, sometimes 100 ft. high, with a trunk from 2 ft. to 5 ft. in diameter; and, like the next species, may be distinguished from other New Zealand pines by the old bark falling away in long thin ribbons, which are pendent from the trunk along its entire length. The branchlets are much flattened, and clothed with imbricating scale-like leaves. The fruit is a small cone, consisting of four woody scales, each with a short spine on the outside; each seed is furnished with a membranous wing. The wood is of a dark-red colour with darker streaks; it is straight and even in the grain, and often very ornamental. It is extremely durable, somewhat stronger than the next species, and has been used for general building purposes, fencing-posts, shingles, palings, &c.; but is especially valued by cabinetmakers on account of its ornamental character, and the facility with which it takes a high finish. It is one of the rarest timbers, and has become much too valuable to be used for general purposes.

6. PAHAUTEA, or CEDAR (*Libocedrus bidwillii*), Hooker f.; "Forest Flora," Plate 83. From the head of the Hauraki Gulf to Southland, chiefly in hilly districts.

The pahautea is closely related to the kawaka, but is usually of smaller size, and the ultimate branchlets instead of being flattened are four-sided. It forms an elegant cone-shaped tree 40 ft. to 70 ft. high, with a trunk from 1 ft. to 2½ ft. in diameter, although larger specimens are occasionally found. The bark is loose and pendent, as in the preceding species, but the flakes are not so broad, and are rather more fibrous. The leaves are similar to those of the kawaka, and the cones are rather smaller, each bearing two winged seeds. The wood is remarkably straight in the grain, but light and rather brittle: it is of a uniform dull red colour, extremely durable in all kinds of situations. It is largely used for general house building, fencing, house-blocks, telegraph-posts, railway-sleepers, bridges, and other purposes for which great durability is required. In this quality it appears to surpass totara. On account of its brittle character it should not be used for beams, flooring-joists, or other purposes for which great strength is required. It is excellent for venetian blinds, and stands much better than the imported redwood of California. When seasoned, its weight per cubic foot is 26·306 lb. to 28·611 lb. Its breaking-weight is only 99·98 lb.; it is therefore the weakest of all the New Zealand pines.

7. NORTHERN MANOAO (*Dacrydium kirkii*), F. Mueller; "Forest Flora," Plate 97. Hokianga, Bay of Islands, north of the Auckland Isthmus.

The manoao of the North Island is a handsome pyramidal or conical tree, 40 ft. to 100 ft. in height, with a trunk 2 ft. to 3 ft. or rarely 4 ft. in diameter. It is remarkable for exhibiting leaves of two widely different kinds: In the young state the leaves resemble those of the true silver-fir, and are from 1 in. to 1½ in. long, spreading and acute; these pass most abruptly into imbricating scale-like leaves, so closely appressed that the branchlets resemble stout whipcord. The male and female flowers are carried on different plants, and the fruits, which are set in a small fleshy orange-coloured cup, are aggregated near the tips of the branchlets. The wood is of a yellowish-brown colour, very compact, elastic, of great strength and extreme durability. Unfortunately it is scarcely known in commerce, although some years back it was placed on the Auckland market under the name of "Barrier pine."

8. SOUTHERN MANOAO (*Dacrydium colensoi*), Hooker; "Forest Flora," Plate 96. Ruapehu to Stewart Island.

The southern manoao has a close resemblance to *D. kirkii*, but is usually of smaller dimensions. The linear leaves are about ¾ in. long, and the appressed scale-like leaves are keeled on the back. The wood is similar in quality to *D. kirkii*, but of a deeper colour. It ascends the mountains to nearly 4,000 ft., but is often reduced to a dwarf shrub.

9. WESTLAND PINE (*Dacrydium westlandicum*), T. Kirk; "Forest Flora," Plate 85. Whangaroa North, Great Barrier Island, and Ngauruhoe district; the west coast of South Island, and Martin's Bay.

This is often called "silver-pine," or "white silver-pine" to distinguish it from the next species, which is known as "yellow silver-pine." It forms a small tree, usually from 40 ft. to 50 ft. high, with a trunk 1 ft. to 2½ ft. in diameter, and rather short branches, which are thickly covered with an immense number of very short slender branchlets. In the young state the leaves are about ⅓ in. long, awl-shaped and spreading; in the mature state they resemble minute scales closely imbricated all round the stem, so that the branchlets resemble fine whipcord.

Although of small dimensions, its timber is of great value, as it is of extreme durability, combined with great strength, toughness, and elasticity. It is clear in the grain, dense, firm, and compact, charged with resin, and of low specific gravity. When seasoned it has a yellowish satiny lustre, and takes a high finish. It shrinks but little in drying. It has been employed for piles, bridges, wharves, and other constructive works; for marine piles it is fully equal to totara. It has been much used for furniture, and from the unusual combination of great strength and toughness, with extreme durability, is admirably suited for the woodwork of agricultural implements, &c. Recently it has been largely converted for railway-sleepers.

10. Yellow Silver-pine (*Dacrydium intermedium*), T. Kirk; "Forest Flora," Plate 86. Great Barrier Island, Thames Goldfield, and central parts of the North Island; west coast of Nelson, Westland, and Otago; Stewart Island.

This species is also called the "mountain pine," as it ascends the mountains to 4,000 ft. Usually it is a handsome conical or round-headed tree, 40 ft. high and upwards, with a trunk 1 ft. to 2 ft. in diameter. Old specimens growing in open situations are very beautiful, as the branchlets are pendulous and easily swayed by the wind. In the young state the leaves are narrow, awl-shaped, and spreading, ½ in. to ⅔ in. long; but in the mature state they are reduced to imbricating scale-like processes 1/30 in. long, with a slight ridge on the back. The wood is very resinous, reddish-yellow, straight-grained, compact and even, combining great strength with extreme durability.

It is applied to the same purposes as the preceding species, and is especially valued for boat-building. It is now used for railway-sleepers, and might also be employed in the manufacture of agricultural implements. It is considered to excel the white silver-pine in durability; if its dimensions were larger it would be one of the most valuable timbers in the colony.

11. Puriri (*Vitex littoralis*), "Forest Flora," Plate 105. North Cape to Poverty Bay and Taranaki.

The puriri is often called the New Zealand oak, on account of its great strength. It is, however, more closely allied to teak. It forms a handsome tree from 40 ft. to 60 ft. high, with a trunk 2 ft. to 5 ft. in diameter. The tree is smooth in all its parts, and the bark is thin and almost white. The leaves are of a deep, glossy green, consisting of from three to five stalked leaflets, 2 in. to 5 in. long, springing from the apex of a stout stalk. The leaflets are about 3 in. wide. The flowers are red or (rarely) white, forming panicles which spring from the axils of the leaves. They are of irregular shape and about 1 in. long. The fruits are spherical, red, and enclose a curious club-shaped nut containing four seeds. The wood is excessively hard, dense, heavy, and is the strongest as well as the most durable timber in the colony. It is of a dark-brown colour, with the fibres crossed and interlaced, so that very often it is difficult to work, although, as a rule, it splits easily, except in aged trees, when it is necessary to employ blasting-powder. It is extensively used for fence-posts, house-blocks, piles, culverts, bridges, &c., and is the most durable of all timbers employed for railway-sleepers. Unhappily it has become comparatively rare in districts where it was formerly abundant.

12. Tooth-leaved Beech (*Fagus fusca*), Hooker f.; "Forest Flora," Plates 90, 91. Ahipara to Southland.

This fine tree is the tawhai, or tawhai-rau-nui of the Maoris; the black-birch of the settlers in Auckland, parts of Otago and Southland; the red-birch of Wellington, Nelson, and parts of Otago; and bull-birch of the Southern Lake District. So much trouble and loss have been caused by the misleading common names used in different districts, that the name of tooth-leaved beech has been brought into use to supersede them, and is generally adopted in the Government departments.

Tooth-leaved beech is a noble tree, from 80 ft. to 100 ft. high, or more, with a trunk from 2 ft. to 10 ft. in diameter, clothed with rough, deeply-furrowed bark, which in the mature state is of a deep rich brown colour, easily recognised at a short distance, but scarcely distinguishable at close sight; it is often black or blackish-brown. The leaves are larger than those of any other New Zealand beech. They are from ¾ in. to 1½ in. in length, and from ½ in. to ¾ in. broad, somewhat variable in shape, but always wedge-like at the base. When first developed they are clothed with short, downy hairs, which speedily disappear after the leaves attain their full size. The upper portions of the margins are cut into sharp, rather coarse teeth. The fruits are woody cups formed of four valves or leaves, each valve having curious membranous transverse bands or plates on the outside, and the cup contains three or four three-sided nuts, with a narrow membranous wing produced from each angle.

The wood is of a red colour, very tough, of great strength and high durability; consequently it is extensively used for bridges, railway-sleepers, piles, house-blocks, mine-props, also for house framing, flooring, joists, and weatherboarding. As the timber is easily split, it is much used for fencing, which, when properly erected, should last for forty years.

The weight, when seasoned, is 34·124 lb. to 40·648 lb. per cubic foot. The breaking-weight varies from 156·83 lb. to 262·5 lb. It must rank amongst the most valuable timbers in the colony.

13. **Entire-leaved Beech** (*Fagus solandri*), Hooker f.; "Forest Flora," Plate 56. Cape Runaway to Otago; chiefly in lowland districts: often local.

Like the preceding species, the entire-leaved beech has different names in different districts: black-birch, white-birch, red-birch, black-heart birch are amongst the most common; it is sometimes termed tawhai-rauriki by the Maoris. It is a handsome tree, commonly from 60 ft. to 90 ft. high, with a trunk 3 ft. to 4 ft. in diameter, although specimens 100 ft. high and upwards, with still larger trunks, are not infrequent. The leaves are small, about ½ in. long and $\frac{3}{16}$ in. broad, oblong and quite entire; white beneath, and of very thick texture. The fruits are small. The wood is pale red, or greyish, in colour, often streaked with darker markings; the heart-wood is black, and irregular in outline. It is very strong, tough, and durable if used when thoroughly ripe and properly seasoned. The wood of immature trees, or of trees that have stood too long, is not satisfactory. The weight per cubic foot when seasoned is 40·292 lb., and the breaking-weight 339·53 lb.

14. **Blair's Beech** (*Fagus blairii*), T. Kirk; "Forest Flora," Plate 57. Central parts of North Island; Buller River and Little Grey; Lake Ohau; Lake Wakatipu and Dart Valley.

This handsome tree resembles the European beech more closely than any other New Zealand species, but has larger leaves, which are quite entire, green above and yellowish-brown beneath. It is usually 50 ft. to 60 ft. in height, with a trunk 2 ft. to 3 ft in diameter.

The timber is similar to that of the entire-leaved beech, but somewhat smoother in the grain.

15. **Maire-raunui** (*Olea cunninghamii*), Hooker f.; "Forest Flora," Plates 59A and 59B. Mongonui to Marlborough and Nelson.

A noble tree, one of the most valuable in the colony for strength and durability. It is from 50 ft. to 70 ft. high, with a trunk 3 ft. to 6 ft. in diameter. The leaves of young plants differ widely from those of the mature state, being from 6 in. to 10 in. long, and about ⅜ in. broad; those of mature trees are from 3 in. to 6 in. long and nearly 2 in. broad. The flowers are arranged in racemes developed in the axils of the leaves, and being destitute of petals are inconspicuous. With the exception of the puriri and manoao, it is the strongest timber in the colony. It is of a deep-brown colour, dense, compact, even and straight in the grain, while it is easily worked, and takes a good finish; it is of extreme durability, and when fully mature exhibits but little sap-wood. It is suitable for bridges, wharves, and constructive works generally; for railway-sleepers, farm-gates, posts, &c., and for the framing of railway-carriages and wagons. It has been used for machine-beds, bearings, &c., framing for heavy machinery, millwrights' work, and agricultural implements. Old specimens are beautifully streaked and figured, and are in demand for ornamental cabinet-work, veneers, ornamental turnery, &c. Its specific gravity varies from 1·113 to 1·193; weight per cubic foot, 70·63 lb. to 74·40 lb.; breaking-weight, 327 lb. to 335 lb.

16. **Maire** (*Olea lanceolata*), Hooker f.; "Forest Flora," Plates 60, 61, Mongonui to Marlborough and Nelson.

The white maire, as it is often called by the bushmen, forms a round-headed tree 30 ft. to 50 ft. high, with a trunk 1 ft. to 3 ft. in diameter, clothed with white bark. The smooth, glossy, pointed leaves are about 3 in. long, with veins prominent on both sides. The flowers are inconspicuous, and are followed by trigonous, bright red fruits, containing a single seed. The wood is firm, even, compact, very strong, and durable, but of smaller dimensions than the preceding, and is used for similar purposes.

17. Narrow-leaved Maire (*Olea montana*), Hooker f.; "Forest Flora," Plate 29. Whangaroa North to Nelson.

A twiggy, round-headed tree, 20 ft. to 50 ft. high, or more, with a trunk 1 ft. to 2 ft. in diameter, clothed with brownish-grey bark. The timber closely resembles that of the preceding species, and is applied to the same purposes. It has also been used for the teeth of gearing-wheels, &c.

18. The Northern Rata (*Metrosideros robusta*), A. Cunningham; "Forest Flora," Plate 128. North Cape to Greymouth.

The northern rata forms a noble tree, with an irregular head. It is sometimes 100 ft. in height and 3 ft. to 12 ft. in diameter. It was formerly supposed to be a climber, owing to its peculiar habit. The dust-like seeds are often blown into the forks of lofty trees, and readily germinate in the mould formed by the decay of epiphytic vegetation, so that very often the plant commences life at a great height above the ground, and continues to grow in this position for a longer or a shorter period, until its store of nutritive material is exhausted, when it sends one or more aerial roots down the stem of the supporting tree. The aerial roots enter the soil, and, drawing larger supplies of food, soon become changed into stems. Some of these stems have been found over 20 ft. in diameter. Sooner or later the supporting tree is killed by the usurping rata: if two or more aerial roots are given off it is squeezed to death: and the dead stem may retain its position for years, sometimes completely hidden as the rata stems increase in bulk. The leaves are about 1½ in. long, quite entire, and of rather thick texture. The flowers form compact clusters at the tips of the branchlets, and present a brilliant appearance.

The wood is of a dull-red colour, plain, straight in the grain, dense, and heavy; it is durable, and of great strength. Its large tortuous limbs are often used for ship timbers, and it is in demand for the arms of telegraph-posts. It is suitable for the framework of railway-wagons, for bearings, machine-beds, bridges, wheelwrights' work, &c., and is highly valued for firewood.

19. The Southern Rata (*Metrosideros lucida*), Menzies; "Forest Flora," Plate 58. Great Barrier Island and Thames Goldfield to Auckland Islands.

The southern rata, or ironwood, is easily recognised by the pale-coloured twigs, sharp-pointed leaves, and large panicles of bright-scarlet flowers, and invariably terrestrial habit. One of the most magnificent sights the colony has to offer is a mountain slope covered with the southern rata when the brilliant flowers are touched by the rising sun—rarely the flowers are of a lustrous golden-yellow. The wood has similar qualities to the northern rata, but it is often gnarled and twisted; it is of great strength and durability, and is used for similar purposes. It is considered of higher value than the preceding species for heavy framing; it is of smaller dimensions, rarely exceeding 50 ft. to 60 ft. in height, and 2 ft. to 6 ft. in diameter; at great altitudes it is reduced to a mere shrub. Its specific gravity varies from 1·010 to 1·146; its weight per cubic foot from 62·953 lb. to 71·429 lb.; and its breaking-weight from 175 lb. to 255·4 lb.

20. Pohutukawa (*Metrosideros tomentosa*), A. Cunningham; "Forest Flora," Plate 118. North Cape to the Mimi River, Taranaki.

The pohutukawa sometimes attains a height of 70 ft., with a trunk from 2 ft. to 4 ft. in diameter, and large, irregular, massive, spreading arms. The brown bark is much furrowed and wrinkled. The leaves are simple, from 1 in. to 4 in. long, and ¾ in. to 1¼ in. broad, of thick texture, silvery-white beneath. The flowers are of a deep blood-red colour, and form dense compact panicles at the tips of the branches. When in full flower a fine tree forms a magnificent object. The wood is excessively dense, very strong, and of great durability. It is extensively used for ship-building, machine-beds, bearings, trenails, &c., and for various special purposes.

21. SMALL LEAVED POHUTUKAWA (*Metrosideros polymorpha*), Forster; "Forest Flora," Plate 119. Kermadec Islands.

This species is abundant on the Kermadecs, but does not occur elsewhere in the colony. It is somewhat smaller than the preceding species, and affords timber of similar quality. In a few years it will prove of great value to Auckland shipbuilders, as the pohutukawa is becoming rare in many localities.

22. MANUKA-RAURIKI (*Leptospermum ericoides*), A. Richards; "Forest Flora," Plate 69. North Cape to Otago.

An attractive tree with slender branches, clothed with short linear leaves ½ in. long, and producing a profusion of small white flowers. Its height is from 40 ft. to 60 ft., and the trunk is from 1 ft. to 3 ft. in diameter, clothed with thin bark, which falls away in long narrow flakes. The timber is straight-grained, compact, heavy, tough, and elastic, usually of a red colour. It is of great strength and durability, and is largely used for piles, bridges, marine jetties, house-blocks, fence-rails, wheelwrights' purposes, cogs for machine wheels, axe handles, &c., and is highly prized for firewood. In the young state it is often called white tea-tree. Its specific gravity varies from 0·906 to 1·042; its weight when seasoned from 56·46 lb. to 64·95 lb. Its breaking-weight is from 200 lb. to 202 lb.

23. MAIRE-TAWHAKE (*Eugenia maire*), A. Cunningham; "Forest Flora," Plate 122. Mongonui to Queen Charlotte Sound; Pelorus.

The maire-tawhake is a handsome conical tree, 25 ft. to 50 ft. high, with a straight trunk 1 ft. to 2 ft. in diameter, clothed with thin white bark; the leaves are entire, and the branchlets carry rather large panicles of white flowers resembling those of a myrtle. These are succeeded by irregularly-shaped red fruits as large as a nut. The timber, although small, is of great value for many purposes requiring great strength and durability; it is straight in the grain, even, dense, and heavy; it is of a pale-brown colour, and when figured is valued by the cabinetmaker, but is most frequently used for piles, mooring-posts, fence-posts, &c. Its specific gravity varies from 0·618 to 0·943; its weight per cubic foot, 38·45 lb. to 60 lb.; its breaking-weight ranges from 135 lb. to 225 lb.

24. KOWHAI (*Sophora tetraptera*), Aiton; "Forest Flora," Plates 50, 51, 52. North Cape to Southland; Chatham Islands.

This elegant tree varies from 25 ft. to 40 ft. in height, with a trunk 1 ft. to 3 ft. in diameter; frequently it is a much-branched shrub 10 ft. to 20 ft. high, with several stems of no great thickness. Its light feathery foliage and showy yellow flowers, the appearance of which marks the near approach of spring, render it a favourite for ornamental planting. The leaves vary from ½ in. to 7 in. in length, and consist of a row of oval or oblong leaflets arranged on each side of a common leaf-stalk with a terminal leaflet at the apex. It is one of the few deciduous trees in the colony, and the flowers appear in August and September, before the new leaves are developed; they are from 1 in. to 1½ in. in length, and are carried in pendulous racemes. The pod or tomentum is curiously constricted between the seeds, and has four narrow membranous winged margins. The wood is of a rich brown colour, compact and heavy, very strong, tough and elastic, extremely durable. It is used for piles, house-blocks, braces, bearings for shafts and machinery, agricultural implements, cabinet work, and ornamental purposes generally.

Its specific gravity is 0·667 to 1·037; its weight per cubic foot 41·57 lb. to 4·66 lb.; and its breaking-weight 170 lb. to 275 lb.

Class II.

25. Rimu, Red-Pine (*Dacrydium cupressinum*), Solander; "Forest Flora," Plates 18 to 22. North Cape to Stewart Island.

In the young state, under favourable circumstances, the rimu is one of the most charming trees known; its conical outline and long pendulous branchlets suggest the idea of a living fountain. In old specimens this symmetrical outline is completely lost; the arms spread irregularly, and carry the uneven drooping branchlets at the tips, so that the tree often presents a ragged, uneven appearance. It attains the height of from 40 ft. to 80 ft., with a trunk from 2 ft. to 4 ft. in diameter, clothed with rugged bark, which alone is sufficient to distinguish it from any other New Zealand pine. The leaves are awl-shaped, from $\frac{1}{12}$ in. to $\frac{1}{4}$ in. long, closely overlapping all round the branchlets, and very uniform in old trees. The fruit is a nut, seated on a red fleshy receptacle, having a few green scales on its surface. Rimu is the chief building timber employed over two-thirds of the colony, and is used for framing, flooring, joists, weatherboards, mantelpieces, &c.

It is of a brown colour, varying greatly in intensity, but often beautifully shaded, resembling some varieties of rosewood, so that it is extensively used in the manufacture of plain and ornamental furniture, for which indeed it is especially suited.

Although not durable when exposed, it is of great strength, and may be used for beams under cover. In Taranaki, selected logs are sometimes employed in the construction of bridges, great care being taken to prevent the access of water at the joints; but its general use in exposed constructive works is certainly unwise, although occasionally the heart-wood of very old logs is so thoroughly saturated with resin that it may be used for railway-sleepers and other purposes where strength and durability is required.

Its specific gravity is 0·550 to 0·664, and its weight per cubic foot, when seasoned, is from 24·38 lb. to 40·11 lb. Its breaking-weight is 350·88 lb., so that it is equal to English oak in strength. Rimu occupies a larger portion of the forest area than any other New Zealand timber.

26. Kahikatea, White-Pine (*Podocarpus dacrydioides*), A. Richard; "Forest Flora," Plate 31. Mongonui to Southland.

A noble tree, 60 ft. to 150 ft. high, with a remarkable straight trunk, 2 ft. to 4 ft. and upwards in diameter. It often forms vast forests in swampy situations, but is also found on the hills. Old swamp specimens often develop fluted buttresses, but usually the trunk is remarkably symmetrical. In young trees the leaves are $\frac{1}{4}$ in. long, spreading, and of a deep-brown colour, arranged in a single row on each side of the branches. In the mature state they are reduced to small scales, about $\frac{1}{12}$ in. long, closely appressed to the branchlets, which resemble those of a cypress. The fruit is a red drupe, the jet-black seed being partly exserted at the apex. The wood is white or pale-yellow, tough, elastic, and of great strength, but it is not of great durability when exposed, although often employed for general building purposes, especially for flooring. It is extensively used for cheap furniture, and is exported to a considerable extent. Unhappily it is often attacked by a small boring-beetle, the larvæ of which drive their miniature tunnels through it in all directions until at length it crumbles to pieces.

In the Marlborough and Nelson districts a variety of this plant, growing chiefly on the hills, produces timber of a yellow colour, which is considered to be much more durable than the ordinary kind.

The specific gravity of the seasoned timber is 0·459 to 0·557; its weight per cubic foot 29·11 lb. to 29·505 lb. A piece 2 ft. long and 1 in. square, supported at each end and loaded in the middle, requires a weight of from 308 lb. to 358 lb. to break it. Occasionally logs are met with having a much higher specific gravity.

27. MIRO, TOROMIRO (*Podocarpus ferruginea*), Don; "Forest Flora," Plate 84. Mongonui to Stewart Island.

A round-headed tree, much resembling the English yew, with a trunk from 50 ft. to 90 ft. high, and from 1 ft. to 3 ft. in diameter. When growing on hills at an altitude of from 1,500 ft. to 2,000 ft. the trunk is usually very short in proportion to the branches. The leaves are from ½ in. to ¾ in. long, acute at the tips with a distinct mid-rib, green on both surfaces; those of very young plants are rather longer than those of the mature state, but all alike become of a rusty brown when dried. The handsome solitary fruits are of a bright red colour, ¾ in. long and carried on short stalks. The timber resembles the matai, but is of a deeper brown, and may be easily distinguished in cross sections by the dark colour of the heart-wood, which is somewhat irregular in shape. It is clear and straight in the grain, of even texture, firm, elastic, and strong; but is not durable when exposed, and speedily decays if water is allowed to gain access to the joints. It is useful for all kinds of indoor work, and from its strength is specially suitable for beams under cover. On account of its hardness it is liable to split when nails are driven without previous boring, and less easily worked than other kinds; it is, however, found to be of great value for marine piles, when the bearing joints are carefully protected.

Its mean specific gravity is 0·787; weight per cubic foot 49·07 lb.; breaking-weight, 197·2 lb.

It is most plentiful in the South Island, and forms a large portion of the forests of South and Stewart Islands. In Otago it was formerly known as bastard black-pine, a designation which has happily fallen into disuse.

28. TANEKAHA (*Phyllocladus trichomanoides*), Don; "Forest Flora," Plates 6, 7. Auckland, plentiful; rare in Hawke's Bay, Marlborough, and Nelson.

The tanekaha is one of the celery topped pines, and is a strikingly handsome tree 50 ft. to 80 ft. in height, with smooth, dark-grey or blackish bark and spreading branches, which are often whorled. The fan-shaped expansions resembling leaves are modified organs termed phyllodia, and bear the female flowers on their margins; the true leaves are small and insignificant, speedily falling away. The wood is remarkably sound, straight in the grain, of firm and even texture, and is one of the strongest timbers in the colony, but not suitable for situations in which it becomes alternately wet and dry. It has been used for water-tanks with excellent results, for all kinds of inside work, and even for weatherboards. Notwithstanding its great strength it should never be used for bridges or constructive work of any kind. It is occasionally employed for the masts of small craft, and is largely used for mine props on the Thames goldfields. The young plants, being straight and slender and having the branches given off in regular whorls, make excellent ornamental stocks for gig whips, &c., and are specially suitable for walking-sticks.

The bark is the most valuable in the colony for tanning purposes.

29. TOATOA (*Phyllocladus glauca*), Carr; "Forest Flora," Plates 98, 99. Mongonui to Te Aroha and Patetere.

"The most charming of all the New Zealand pines" is a handsome tree 25 ft. to 40 ft. high, with a trunk 12 in. to 18 in. in diameter; the large foliaceous phyllodia are sometimes 2 in. long and 1½ in. broad, somewhat fan-shaped. The male catkins are crowded at the tips of the branches, and the fruits are lateral, forming cones as large as hazel nuts. The wood is white, very straight in the grain, and splits easily. It is tough, strong, and elastic, but in all probability will not prove durable when exposed.

The bark is probably equal to that of the tanekaha for tanning purposes.

30. MOUNTAIN TOATOA (*Phyllocladus alpinus*), Hooker f.; "Forest Flora," Plate 100. Mountain districts from Cape Colville to Southland.

This species rarely exceeds 25 ft. in height, and the trunk is usually 5 in. to 12 in. in diameter; the phyllodia are smaller and thicker than in the preceding species. The wood is similar to that of the tanekaha, being of equal strength. It is much valued by bushmen for levers, lifting-poles, &c. Tar is occasionally extracted from it, but it is of no value for general building purposes.

31. TAWHAI, or MOUNTAIN-BEECH (*Fagus cliffortioides*), Hooker f.; "Forest Flora," Plates 101, 101A. Waikare Moana to Preservation Inlet.

This is sometimes termed tawhai-rauriki by the Maoris, and mountain-birch, white-birch, &c., by shepherds and bushmen. It rarely exceeds from 40 ft. to 50 ft. in height, and when growing above 3,000 ft. is reduced to 6 ft. or 8 ft. or dwarfed into a flat-topped bush. Isolated specimens are exceedingly beautiful and picturesque. The wood is of small dimensions, and although of considerable importance in the mountain districts, where it forms the only timber, does not enter into commerce.

32. TAWHAI, or SILVER-BEECH (*Fagus menziesii*), Hooker f.; "Forest Flora," Plate 89. Hauraki Gulf to Colac Bay, Southland.

The silver-beech is the most beautiful and attractive of all the New Zealand beeches; unhappily different common names have been applied to it in different districts, so that it is variously termed brown-birch, red-birch, white-birch, silver-birch, &c. It is usually from 80 ft. to 100 ft. in height, with a trunk 2 ft. to 4 ft. in diameter. On immature trees the bark is thin, whitish, and silvery, but on old specimens it becomes rough and furrowed at the base. The leaves are smooth, somewhat rhomboid in shape, about ½ in. long by ⅓ in. wide, with blunt rounded teeth. The fruit is similar to that of the tooth-leaved beech, but the transverse plates on the valves are fringed with minute stalked glands.

The wood is of a deep-red colour, plain, remarkably straight and even in the grain, of great strength, but not durable when exposed. Although rather heavy, it is used for the framing of houses, except ground-plates, and for all kinds of indoor work, and for the manufacture of ordinary furniture; it is especially useful for tubs, buckets, and other coopers' ware, more particularly for wine and spirit casks. Its weight, when seasoned, is 38·99 lb. per cubic foot, and its breaking-weight 185·50 lb. It is valuable for large beams under cover.

33. PUKATEA (*Laurelia novæ-zealandiæ*), A. Cunningham; "Forest Flora," Plate 71. Mongonui to Westland.

A lofty tree with pale bark, usually from 90 ft. to 120 ft. or even 150 ft. high, with a trunk from 3 ft. to 6 ft. in diameter, usually flanked with radiating buttresses at the base, which nearly double the diameter of the trunk. The glossy ovate or oblong leaves are ¾ in. to 1½ in. wide and barely twice as long. The wood is of a pale yellowish-brown colour, streaked or clouded with deeper shades, and often very ornamental, rather soft, but of great strength and toughness. It does not split, and as it is difficult of combustion would be valuable for flooring-boards for factories, &c. It has been employed in boat-building, and was formerly valued by the Maoris for canoes. It has been used for house framing, except ground-plates and weatherboards. It is excellent for common furniture and for many kinds of ornamental work.

34. HINAU (*Elæocarpus dentatus*), Vahl; "Forest Flora," Plate 11. North Cape to Catlin's River.

The hinau forms a round-headed tree 40 ft. to 60 ft. high, with a rather short trunk 1 ft. to 3 ft. in diameter, clothed with grey bark. The branches are often naked except at the tips; the leaves are linear-oblong, 2 in. to 3 in. long, and the drooping white flowers are produced in racemes which spring from the naked wood or from the axils of the leaves, and present a most attractive appearance. The wood is of a dull brown, usually with darker or even black heart-wood. It splits easily, and is tough, strong, and of great durability. It is used for piles, sleepers, bridges, culverts, posts, rails, &c., but is worthless for firewood, as it burns with difficulty. Its bark is highly valued by the tanner.

35. POKAKA (*Elæocarpus hookerianus*) Raoul; "Forest Flora," Plates 12, 13. North Cape to Stewart Island, but often rare and local.

The pokaka bears much resemblance to the hinau, but is of smaller dimensions; its usual height is about 50 ft.; the trunk, 2 ft. to 3 ft. in diameter, is clothed with white bark. The leaves are shorter and narrower than the preceding species, and the flowers are smaller and less attractive. In the young state the branches are tortuous and interlaced with narrow linear or lobed leaves which bear no resemblance to those of the mature state. The timber is whitish, tough, and compact, but is not durable when exposed. The bark has been employed for tanning, but is inferior to that of the hinau.

36. TARAIRI (*Beilschmiedia tarairi*), Bentham and Hooker f.; "Forest Flora," Plate 43. North Cape to Lower Waikato and Poverty Bay.

The tarairi is a handsome tree 60 ft. to 80 ft. high, with stout branches and large broad ovate or obovate leaves of thick texture, brown above and white beneath. The fruit is similar to that of the tawa, but larger. The wood is white, but red at the heart, and splits with the greatest ease; it is, however, not durable when exposed. It is sparingly used as a substitute for the mangeao in the manufacture of ship's blocks and light carts, but is not sufficiently elastic for this work. It is occasionally employed for the manufacture of cheap furniture; and, as it burns quickly, is largely used as a cheap firewood.

37. TAWA (*Beilschmiedia tawa*), Bentham and Hooker f.; "Forest Flora," Plate 126. Spirits Bay to Marlborough and Nelson.

In its slender twiggy branches and willow-like foliage the tawa differs widely from any other tree in the New Zealand forests. In some districts it is so plentiful that it constitutes fully two-thirds of the timber. It is from 40 ft. to 80 ft. high, with a trunk from 1 ft. to 4 ft. in diameter, clothed with black bark. The lanceolate leaves are from 2 in. to 4 in. long; the flowers are green and inconspicuous, but the handsome fruit resembles a damson, and is about the same size. The wood is white, firm, hard, even, and very straight in the grain, but becomes rather brittle with age. It is not durable when exposed. It is now much used for dairy-ware, buckets, tubs, pails, and especially for butter-casks, for which it is highly valued, and preferred to either kauri or sycamore. Spears from 30 ft. to 36 ft. long were made from the trunk by the Maoris. The wood is valued for firewood, as it burns with comparative ease when wet.

38. TITOKI, TOKITOKI (*Alectryon excelsum*), De Candolle; "Forest Flora," Plate 92. Mongonui to Westland.

The titoki, or New Zealand ash, as it is sometimes called, is a beautiful tree 40 ft. to 60 ft. high, with a trunk 1 ft. to 3 ft. in diameter; the leaves are from 5 in. to 13 in. long, and consist of from nine to fifteen stalked pointed leaflets on each side of a common leaf-stalk. The flowers are small, forming large reddish-brown panicles, which are followed by the curious fruits. These are very handsome; the outer coat is hard and woody, with a ridge on the upper surface which is produced backwards into a short spur; the fruit-vessel becomes ruptured transversely and exhibits a glossy jet-black seed, imbedded in a bright scarlet granulated fleshy cup, forming a charming and harmonious contrast of colour. The wood is very straight in the grain, very even, and easily worked. It is highly valued for its great toughness, strength, and elasticity, but is not durable when exposed. It is used for bullock-yokes, swingle-trees, axe-handles, light framing for machinery, and especially for light spokes, hubs, felloes, panels, framing for light vehicles, and bent ware.

Its specific gravity varies from 0·904 to 0·929; its weight per cubic foot from 56·31 lb. to 57·94 lb.; and its breaking-weight from 246 lb. to 250 lb.

39. TAWARI (*Ixerba brexioides*), A. Cunningham; "Forest Flora," Plate 48. Bay of Islands and Hokianga to northern part of Hawke's Bay.

The elegant foliage and striking flowers of the tawari render it one of the most beautiful trees in the colony. It is from 30 ft. to 70 ft. in height, with a trunk 1 ft. to 2 ft. in diameter. The leaves are narrower and lanceolate in shape, of a pale glossy-green, and the handsome flowers, which are from 1 in. to 1½ in. in diameter, are produced in terminal panicles. The wood is white, with a reddish-brown heart, but has been utilised only for mine-props and other temporary purposes.

40. MANGEAO, TANGEAO (*Litsea calicaris*), Bentham and Hooker f.; "Forest Flora," Plate 10. Mongonui to Rotorua.

A small tree, rarely exceeding 40 ft. in height, with a trunk 1 ft. to 2 ft. in diameter. The leaves are ovate or oblong, 3 in. to 4 in. long; the cream-coloured flowers are produced in small umbels, which spring from the axils of the leaves. The wood is white, compact, strong, of great elasticity, and is suitable for any purpose requiring strength, toughness, and elasticity, with a light weight. It is valued for bullock-yokes, coopers' work, coach-panels, shafts, light felloes, and all kinds of bent ware. It is largely in demand for ship's blocks, for which purpose it is considered superior to English ash. It is not durable when in contact with the ground.

Its specific gravity is 0·621, and its weight 38·70 lb. per cubic foot.

41. REWAREWA (*Knightia excelsa*), R. Brown; "Forest Flora," Plate 35. Mongonui to Marlborough.

This fine tree has much the habit of the Lombardy poplar, and is one of the most striking trees in the New Zealand forests, its strict ascending branches being unique among the arboreal flora. It attains the height of from 70 ft. to 100 ft., with a trunk 1½ ft. to 3 ft. in diameter, clothed with dull brown bark. The leaves are from 5 in. to 8 in. long, rigid, and obtuse, with coarse teeth. The deep-red flowers are arranged in dense cylindrical racemes 2 in. in diameter, which spring from the naked bark or from the axils of the leaves. The timber splits easily, is straight in the grain, highly ornamental, handsomely mottled, and often clouded; it is of great strength, and very difficult of combustion. It is largely employed for ornamental cabinet-work and turnery, and is valued for inlaying and writing-desks, also for ornamental fittings for steamers and houses. It is not durable when exposed, but has been used for shingles and similar purposes.

Its specific gravity is 0·785; weight per cubic foot 48·92 lb.; the breaking-weight of a piece 12 in. long and 1 in. square, fixed at one end and loaded at the other, is 161 lb.

42. TAWHERO (*Weinmannia silvicola*), Banks and Solander; "Forest Flora," Plate 72. North Cape to northern part of Hawke's Bay.

This species attains its greatest development in situations at an altitude of from 1,500 ft. to 3,000 ft. At the sea-level it rarely exceeds 20 ft. in height, but at 2,000 ft. specimens 70 ft. high and upwards, with trunks 1 ft. to 3 ft. in diameter, may be found. In all states it forms a handsome and attractive object when in full bloom. The leaves are extremely variable, sometimes 6 in. long, with many pairs of ovate or lanceolate leaflets, at others consisting of three leaflets, or even of a single leaflet. The flowers are whitish, very small, and developed in profusion at the tips of the branchlets. The timber is of a light-red colour, very even, strong, tough, and elastic, but opinions differ as to its durability. It has been used for a variety of purposes, and makes excellent firewood; but the tree is more valued for its bark, which has been extensively used for tanning.

43. TOWHAI, or KAMAHI (*Weinmannia racemosa*), Forster: "Forest Flora," Plate 73. Middle Waikato to Stewart Island.

This species is similar to the preceding, but of larger dimensions. Seedling plants exhibit compound leaves, but these speedily disappear, and the leaves of the mature state are simple, 1 in. to 4 in. long, ovate, and coarsely toothed. The flowers are similar to those of *W. silvicola*, but the seed-pods are hairy. The wood is deeper in colour than that of the preceding form, strong and durable; in many cases it is prettily marked, and is suitable for cabinet-making and for ornamental turnery, &c. It is used for house-blocks, piles, fence-posts, tramway sleepers, &c., and for railway sleepers in moist situations. It is especially suited for beams under cover, but when exposed to the sun, longitudinal cracks develop and water gains access. It has been used for house framing. Its weight per cubic foot, when seasoned, is 38 717 lb., and its breaking-weight 314·7 lb. The bark is highly valued for tanning.

44. POROKAIWHIRI (*Hedycarya dentata*), Forster; "Forest Flora," Plate 110. Three Kings Islands to Port Chalmers.

A small tree, 30 ft. to 50 ft. high, with a trunk 1 ft. to 2 ft. in diameter, but often reduced to a short shrub, branched from the base. The leaves are from 2 in. to 4 in. long, and from 1 in. to 2 in. broad, quite entire; the flowers spring from the axils of the leaves, and are succeeded by the pale-red fruits, which are produced in profusion, and present an attractive appearance. The wood is white, soft, and splits readily, but is not durable when exposed.

45. KOHEKOHE (*Dysoxylum spectabile*), Hooker f.; "Forest Flora," Plates 64, 65. Mongonui to Marlborough and Nelson.

A round-headed tree 20 ft. to 50 ft. high, with a trunk 1 ft. to 4 ft. in diameter, clothed with pale bark. The leaves are from 12 in. to 18 in. long, and consist of about four pairs of large entire leaflets 3 in. to 7 in. long; the flowers form drooping panicles 12 in. long, springing from the naked bark or from the axils of the leaves; the fruit is a pendulous rounded capsule with thick leathery valves, and is usually three-celled, the seeds being enclosed in a scarlet envelope. The wood is even in the grain, soft and light, but fairly durable. It is used by the cabinetmaker, especially for work in which light timbers are required, and makes excellent firewood. It is greatly prized for wire-fence posts in loose sand; in situations of this kind it is more durable than totara. Its specific gravity is 0·678; its weight per cubic foot 42·25 lb., and its breaking-weight 117·4 lb.

Class III.

46. HOROPITO (*Drimys axillaris*), Forster; "Forest Flora," Plate 1. North Cape to Stewart Island.

A shrub or small tree, sometimes 30 ft. high; the trunk rarely exceeds 8 in. in diameter, and is clothed with black bark. Leaves entire, of a glossy green, or, in the South, of a yellowish green with red blotches. Flowers, small; wood, reddish, with pale markings, chiefly used by the cabinetmaker for inlaying.

47. TARATA (*Pittosporum eugenioides*), A. Cunningham; "Forest Flora," Plate 49. North Cape to Southland.

A round-headed tree 20 ft. to 40 ft. high, clothed with white resinous bark. Its leaves are of a delicate pale green, 2 in. to 4 in. long, and upwards of 1 in. wide. The flowers are pale yellow, produced in rather large corymbs at the tips of the branches. The wood is white and compact, tough, elastic, and strong, but not durable when exposed. It is largely used by the wood-turner, and is suitable for chisel-handles, &c. It is extremely difficult of combustion. It is called by the settlers white mapau, turpentine maple, &c.

48. KARO (*Pittosporum crassifolium*), Banks and Solander; "Forest Flora," Plate 14. North Cape to Poverty Bay.

A tall shrub or small tree, 30 ft. high, with a rigid habit of growth. Leaves, 2 in. to 3 in. long, entire, whitish beneath, with chocolate-coloured flowers and decurved capsules, the size of small walnuts. The wood is white, tough, strong, and difficult of combustion. It is occasionally used for inlaying.

49. TAWHIWHI (*Pittosporum tenuifolium*), Banks and Solander; "Forest Flora," Plate 46. North Cape to Stewart Island.

A shrub or small twiggy round-headed tree 30 ft. to 40 ft. high; trunk, 12 in. to 18 in. in diameter, clothed with smooth, black leaves; leaves, 1 in. to 1½ in. long; flowers, chocolate-cloured, springing from the axils of the leaves. Fruit, an erect woody capsule as long as a hazel nut. Wood, brownish-white, even in the grain, tough, elastic, and very strong, but not durable when exposed. Its specific gravity is 0·959 to 0·972, and its weight per cubic foot 59·79 lb. to 60·57 lb. Its breaking-weight is 243 lb. for a piece 12 in. long, 1 in. by 1 in., supported at one end and weighted at the other.

50. Mahoe (*Melicytus ramiflorus*), Forster; "Forest Flora," Plate 3. Kermadec Islands to the Bluff.

A shrub or small tree, 25 ft. to 30 ft. high, with pale bark and inconspicuous greenish flowers; leaves 3 in. to 5 in. long; fruit a small round berry. The leaves are eaten by stock. The wood is of a pale-brown colour, and very brittle; it is occasionally used for inlaying, and is valued for charcoal for the manufacture of gunpowder. It is largely used for firewood.

51. Houi or Manatu (*Plagianthus betulinus*), A. Cunningham; "Forest Flora," Plates 103, 104. Mongonui to Stewart Island; Chatham Islands.

The ribbon-wood, as it is termed by the settlers, is a graceful tree, closely resembling the European birch in habit; it is from 30 ft. to 60 ft. in height, with a trunk from 1 ft. to 3 ft. in diameter. The leaves are from 1 in. to 3 in. long, deeply toothed or lobed. The flowers are small, and crowded in panicles at the tips of the branches. The wood is white and of even grain; it splits easily, but is not durable when exposed; it is specially suited for "white-wood furniture." When prettily marked it is valued by the inlayer.

52. Wharangi (*Melicope ternata*), Forster; "Forest Flora," Plate 66. Kermadec Islands; North Cape to Marlborough and Nelson.

A shrub or small tree, rarely exceeding 20 ft. in height, with pale-yellow leaves, consisting of three leaflets dotted with oil-glands. The wood has a pale satiny lustre, and is used for inlaying, &c.

53. Kaikomako (*Pennantia corymbosa*), Forster; "Forest Flora," Plate 78. Mongonui to Otago.

A shrub or tree, 40 ft. high; the leaves are broadly oblong and irregularly-toothed or lobed; the fragrant white flowers are produced in panicles at the tips of the branches, and are followed by the shining black fruits. The wood is strong, compact in the grain, and durable. It is often prettily marked, and is then utilised by the cabinetmaker and the wood-turner. It is one of the woods used by the Maoris to obtain fire by friction.

54. Ake (*Dodonæa viscòsa*), Linné; "Forest Flora," Plate 17. North Cape to Banks Peninsula; Chatham Islands.

A shrub or small tree, sometimes 30 ft. high, but usually smaller, trunk rarely exceeding 1 ft. in diameter; bark reddish-brown, falling away in narrow flakes; the leaves are quite entire and broadest at the apex, the flattened fruits with broad membranous wings are very conspicuous. The wood is remarkably dense and heavy, blackish or dark-brown, variegated with streaks or patches of white; of great strength and durability. It is valued for picture-frames, cabinet work, inlaying, machine-bearings, and was formerly used for clubs and other weapons.

55. Karaka (*Corynocarpus lævigata*), Forster: "Forest Flora," Plate 88. Kermadec and Chatham Islands; North Cape to Banks Peninsula.

A noble evergreen tree, 30 ft. to 50 ft. high, trunk 1 ft. to 3 ft. in diameter; leaves 3 in. to 7 in. long, 2 in. to 3 in. broad; flowers, greenish-white, in panicles at the tips of the branches, followed by deep-orange fruits. The wood is white, and splits easily, but is perishable. As it is the largest tree in the Chatham Islands the Morioris have utilised it for canoes. The kernel of the fruit is poisonous in the raw state, but when properly cooked is considered highly nutritious by the Maoris.

56. Putaputa-weta (*Carpodetus serratus*), Forster; "Forest Flora," Plate 47. Mongonui to Stewart Island.

A shrub or small tree, rarely exceeding 30 ft. in height, with branches spreading in a fan-shaped manner; the leaves are entire, and sharply toothed, ¾ in. to 1½ in. long; the white flowers are arranged in broad clusters, developed in the axils of the leaves. The wood is white, tough, strong, and elastic, not unfrequently it is prettily marked, but lacks durability when exposed. It is used for axe-handles and similar purposes.

Its mean specific gravity is 0·822; its weight per cubic foot 51·24 lb.; and its breaking-weight 177·6 lb.

57. Kumarahou (*Quintinia serrata*), A. Cunningham; "Forest Flora," Plate 125. Mongonui to Jackson's Bay.

The New Zealand lilac, as it is often termed, is a shrub or small tree 40 ft. high, with a trunk 1 ft. to 2 ft. in diameter; the leaves are 2 in. to 6 in. long and ¾ in. to 2 in. wide, quite entire; the deep-lilac-coloured flowers are arranged in erect racemes 1 in. to 4 in. long, springing from the axils of the leaves. The wood is of a light-red colour, often prettily marked and figured, tough, strong, and elastic, but not durable when in contact with the ground. It is used by the cabinetmaker, and, in the absence of better timber, might be employed for inside work.

58. Makamaka (*Ackama rosæfolia*), A. Cunningham; "Forest Flora," Plate 63. Mongonui and Hokianga to Whangarei.

A handsome shrub or tree, 20 ft. to 50 ft. high, with trunk 1 ft. to 2 ft. in diameter; the leaves are from 3 in. to 10 in. long, and consist of from three to ten pairs oblong leaflets, with toothed margins; the flowers are arranged in lax panicles. The wood is of a brownish-red colour, and similar to that of *Weinmannia silvicola*. The bark is used for tanning.

59. Manuka, or Kahikatoa *Leptospermum scoparium*), Forster; "Forest Flora," Plate 117. North Cape to Stewart Island.

This is the most abundant scrub in the colony, in some localities covering thousands of acres, sometimes only 3 ft. to 4 ft. high, frequently forming a kind of spinny with straight stems 10 ft. to 15 ft. high, 3 in. to 5 in. diameter, and more rarely a small tree 20 ft. to 30 ft. high, with a trunk 1 ft. to 2 ft. diameter. The leaves and flowers are larger than those of the manuka-rauriki (No. 22), and the wood is similar, but of a deeper colour and inferior in strength. An infusion of the leaves is often used by bushmen as a substitute for tea.

60. Ramarama (*Myrtus bullata*), Banks and Solander; "Forest Flora," Plate 131. Mongonui to Marlborough.

This small myrtle is a shrub or small tree 30 ft. high; its reddish-brown ovate leaves are characterized by the spaces between the veins being tumid or inflated, as if blistered—a peculiarity which distinguishes it from all other native plants; its charming white flowers are developed from the axils of the leaves. The wood is red, and often prettily figured; it is straight, compact, and of considerable strength. It is used for ornamental cabinet-work and inlaying, as well as for the handles of chisels, axes, &c.; and makes excellent firewood.

61. Small-leaved Ramarama (*Myrtus ralphii*), Hooker f.; "Forest Flora," Plate 94. Auckland to Nelson.

A shrub or small tree, sometimes 20 ft. high, and resembling *M. bullata*, but with smaller and less tumid leaves. The wood is prettily streaked and mottled, and is applied to the same purposes as the preceding.

62. Rohutu (*Myrtus obcordata*), Hooker f.; "Forest Flora," Plate 70. Hauraki Gulf to Otago.

A shrub or small tree, rarely exceeding 15 ft. in height. The leaves are about ½ *in. long,* broadest at the apex, where they are indented by a shallow notch; the white flowers are developed in the axils of the leaves. The wood, although small, is of great strength, tough, and elastic: it is often prettily marked, and is used for all kinds of ornamental work, turnery, &c., as well as for the handles of carpenters' tools.

63. ROHUTU (*Myrtus pedunculata*) Hooker f.; "Forest Flora," Plate 112. Mongonui to Stewart Island.

This is the most common of the native myrtles, and attains the height of 20 ft. under favourable conditions. It resembles the preceding species; but the leaves are rounded at the apex and destitute of the notch. The wood is applied to the same uses.

64. KOTUKUTUKU or KOHUTUHUTU (*Fuchsia excorticata*), Linné f.; "Forest Flora," Plate 36. North Cape to Stewart Island.

The large native fuschia varies from a shrub to a tree 45 ft. high, with a trunk 1 ft. to 3 ft. in diameter, clothed with thin reddish-brown bark, which, in old specimens, divide into numerous paper-like layers. The pointed leaves are very soft, white beneath, and from 2 in. to 4 in. long; the flowers are solitary, pendulous, at first greenish, streaked or blotched with deep purple, passing into a dull red. As the trunk is often gnarled and curved, it is difficult to obtain timber of great length; but with this drawback it is one of the strongest and most durable timbers in the colony. It is difficult of combustion, hard, dense, and heavy. In many instances the deep-brown colour which forms the ground is relieved with broad streaks of a paler shade, and narrow waved black markings, which render it highly ornamental. It is used for house-blocks and fencing-posts, which seem almost indestructible either by lapse of time or the ravages of fire. After a forest has been destroyed by fire, fencing-posts of this wood have been found uninjured, not even charred. It is highly prized for ornamenta work, picture-frames, turnery, inlaying, &c., and contains 5·3 per cent. of tannin.

65. HOROEKA (*Pseudopanax crassifolium*), Seeman; "Forest Flora," Plates 38A to 38D. Mongonui to Stewart Island.

The "lancewood" of the settlers exhibits remarkably diverse forms of foliage at different stages of its existence; but space does not allow of a detailed description being given here. In young plants, 3 ft. to 15 ft. high, the stems are unbranched, and the leaves are entire, slightly toothed, and excessively rigid, from 1 ft. to 3 ft. long or more, but only ⅓ in. broad; they are invariably deflexed, the lower surface forming a very acute angle with the stem, so that the tip of the leaves are nearest the ground. In the next stage the leaves are erect, compound, and consist of three or five leaflets springing from the apex of an erect leafstalk; but in the mature state these are superseded by simple entire and toothed erect rigid leaves on very short leafstalks. The flowers are produced in umbels, springing from the tips of the branches, and are followed by the black fruits. In the southern parts of the colony the stage with compound leaves is not developed.

In the mature state the horoeka forms a round-headed tree, with a trunk 12 in. to 18 in. in diameter, and forms a dense compact timber of great strength, but of moderate durability. It has been used for small piles, struts, fencing-posts, sleepers, &c., with good results.

66. TOOTHED LANCEWOOD (*Pseudopanax ferox*), T. Kirk; "Forest Flora," Plates 24 to 26. Whangoroa North to Dunedin. Rare and local.

This is closely related to the preceding species, but is of smaller dimensions, seldom exceeding 40 ft. in height; it exhibits the same curious deflexed leaves up to 16 ft. in height, but never produces compound leaves. The deflexed leaves are excessively rigid and acutely toothed or lobed, so as to be capable of inflicting a serious wound if incautiously handled; the mature leaves are shorter than those of the preceding species, but thicker, narrower, and more rigid, while the flowering panicles are smaller. The wood is similar to the preceding, but of a deeper colour, and has been applied to the same purposes.

67. PAPAUMA (*Griselinia littoralis*), Raoul; "Forest Flora," Plate 42. Cape Colville Peninsula to Stewart Island.

A handsome spreading tree, 40 ft. to 60 ft. high, often with a gnarled and crooked trunk 2 ft. to 4 ft. in diameter, clothed with furrowed brown bark. The yellowish-green leaves are slightly wedge-shaped at base, and from 1 in. to 3 in. long; the flowers are arranged in small panicles, which spring from the axils of the leaves. The timber is dense, hard, of even grain, and slightly brittle; it splits easily, notwithstanding its distorted habit, and is of extreme durability. It is used for fencing-posts, boat timber, sleepers, and other purposes for which small rigid timber of great durability is required.

68. PUKA (*Griselinia lucida*), Forster; "Forest Flora," Plate 41. North Cape to Nelson.

A shrub or small tree, sometimes 30 ft. high, and 1 ft. to 2 ft. in diameter; very similar to the papauma, but the leaves are 4 in. to 6 in. long, and very glossy, the panicles also are much larger. The wood is similar to the preceding species, and is applied to the same purposes, so far as its smaller dimensions will allow.

69. TREE KARAMU (*Coprosma arborea*), T. Kirk; "Forest Flora," Plate 132. Mongonui to Lower Waikato.

A small round-headed tree, 20 ft. to 30 ft. high, with a trunk 6 in. to 16 in. in diameter; the leaves are of a brownish-green tint, about 2 in. long, often purple or reddish beneath; the flowers are inconspicuous; the fruits at first white and translucent, ultimately black. The wood is yellow, straight-grained, compact, and very tough, but not durable when in contact with the ground. It is utilised for ornamental cabinet-work and inlaying.

70. YELLOW-WOOD (*Coprosma linariifolia*), Hooker f.; "Forest Flora," Plate 95. Thames Valley to Southland.

A shrub or small tree, sometimes 25 ft. high. The narrow linear-pointed leaves are about an inch in length: the flowers are inconspicuous; the fruit is a two-seeded berry, at first translucent, ultimately black. The wood is of a deep yellow colour, compact, and tough; it is valued by the cabinetmaker for ornamental work, especially for inlaying.

71. TUPARI (*Olearia colensoi*), Hooker f.; "Forest Flora," Plate 102. East Cape to Stewart Island.

A bushy shrub or small tree, sometimes 40 ft. high, with trunk 2 ft. in diameter. The broadly oblong leaves are from 3 in. to 8 in. long, and from 2 in. to 3 in. broad, of thick texture, glossy above but white beneath, with toothed margins. The flower-heads are carried in erect racemes at the tips of the branches. The wood is firm, compact, and strong, with a satiny lustre and small silver grain, often streaked or clouded. It is suitable for many kinds of ornamental work.

72. AKEAKE (*Olearia traversii*), Hooker f.; "Forest Flora," Plate 34. Chatham Islands.

A small tree 25 ft. to 35 ft. high, with a trunk sometimes exceeding 3 ft. in diameter at the base. The branchlets and underside of the entire leaves are white; it is the only large-leaved species with opposite leaves in the flora. The wood is of a dark-brown colour, dense, heavy, and compact, with a satiny lustre, and often beautifully mottled. It is of great strength and extreme durability. Except the kowhai, it affords the only durable timber on the Chatham Islands, where it is extensively used for fencing-posts, sleepers, &c., and is shipped to the mainland for ornamental cabinet-work and inlaying.

73. HEKETARA (*Olearia cunninghamii*), Hooker f.; "Forest Flora," Plate 114. North Cape to Nelson.

A shrub or small tree, sometimes 25 ft. high, with a trunk 1 ft. in diameter or more. The ovate leaves are 2 in. to 5 in. long, and from 1 in. to 2½ in. broad, sparingly toothed. The small daisy-like flowers are produced in large panicles near the tips of the branches. The wood is light-coloured, compact, and satiny, with handsome silver grain and small figure. It is used for ornamental cabinet-work.

74. AKEAKE (*Olearia avicinniæfolia*), Hooker f.; "Forest Flora," Plate 111. Nelson to Stewart Island.

A shrub or small tree rarely exceeding 20 ft. in height, with entire leaves 1½ in. to 2 in. long, and 1 in. to 2 in. wide, white beneath; flower-heads small; arranged in large panicles springing from the axils of the leaves. The wood is similar to that of the heketara, but more ornamental.

75. NEINEI (*Dracophyllum latifolium*), Hooker f.; "Forest Flora," Plate 123, Auckland to Westland.

A small tree of singular beauty and striking habit, 10 ft. to 25 ft. high, trunk rarely more than 1 ft. in diameter, with brown fibrous bark and distantly whorled branches, bearing at their tips a large cluster of recurved leaves, sometimes 1½ ft. to 2 ft. long and 1 in. to 2 in. broad at the base, tapering into long narrow drooping or rigid points. The red flowers are very small, crowded into a cylindrical much-branched panicle 6 in. to 18 in. long, springing from the apex of the branch. The wood is of a reddish colour, even and compact, prettily figured and often waved or clouded; it is rather brittle, but extremely durable, and is suitable for all kinds of ornamental work.

76. MOUNTAIN NEINEI (*Dracophyllum traversii*), Hooker f.; Mountain passes, chiefly in the Canterbury District.

Similar to the preceding species, but larger in all its parts except the flowers, which are smaller; the trunk often exceeds 2 ft. in diameter, and the crowded branches are more numerous. The wood is similar to the preceding but of a paler colour and satiny lustre, also of greater strength and durability.

77. INAKA (*Dracophyllum longifolium*), R. Brown; "Forest Flora," Plate 109. Tararua Mountains to Southland; Stewart Island; Auckland and Campbell Islands.

A shrub or tree, sometimes 30 ft. high, of singular habit; the strict erect grass-like leaves are from 3 in. to 10 in. long, and confined to the upper parts of the branches, so that the plant presents a tufted appearance; the white flowers are arranged in dense racemes springing from the base of the tufts of leaves. The wood is of a whitish-brown hue, with a satiny lustre and oblique wavy markings, which render it very ornamental; it is somewhat brittle, but of great durability, and takes a high finish, which renders it valuable for all kinds of ornamental work, turnery, and inlaying.

78. TORO (*Myrsine salicina*), Heward; "Forest Flora," Plate 15. North Cape to Awatere and Westland.

A handsome tree, 30 ft. to 40 ft. high, with trunk 1 ft. to 2 ft. in diameter; branchlets leafy near the tips only; leaves 4 in. to 6 in. long, ½ in. broad, narrow, oblong. Flowers arranged in small fascicles, springing from the naked bark, and followed by the red fruits, which are nearly ½ in. long. The timber is of a deep red colour and beautifully marked, but is not durable when exposed. It is suitable for rafters, small beams, and all kinds of inside work, also for ornamental cabinet-work and turnery, veneers, &c.

79. MAPAU (*Myrsine australis*), A. de Candolle; "Forest Flora," Plate 16. North Cape to Stewart Island.

The mapau is also called matipau and tipau; it is an erect shrub or small tree 12 ft. to 20 ft. high, with leaves about 1½ in. long, of a pale reddish-brown; the small white flowers are produced in great abundance. The wood resembles that of the preceding species, but is of a paler colour, and, although of smaller dimensions, is more generally used for ornamental work. Both species afford excellent firewood.

80. Tawaapou (*Sideroxylon costatum*), Bentham and Hooker f.; "Forest Flora," Plate 133. North Cape to the East Cape; in places near the sea.

A handsome tree, 20 ft. to 60 ft. high, with a trunk 1 ft. to 3 ft. in diameter; the branchlets and leafstalks contain a milky juice; the oblong leaves are from 2 in. to 3 in. long, 1 in. to 2 in. broad, entire; the flowers are inconspicuous, but the handsome fruit resembles a small plum, and contains two or three polished bony seeds, which were formerly used as necklaces by the chiefs. The wood is white, with a fine compact wavy grain; although very tough it is easily worked, and takes a fine finish, but is not durable when exposed.

81. Maire (*Fusanus cunninghamii*), Bentham and Hooker f.; "Forest Flora," Plates 75, 76. Mongonui to Cape Palliser.

A small tree rarely exceeding 25 ft. in height. The glossy leaves vary from narrow linear to broadly ovate, the extreme forms being sometimes found on the same branch; 1 in. to 4 in. long, ¼ in. to 1½ in. broad. Flowers of a lurid purplish green; fruit red, as large as a cherry. From the agreeable odour of the wood it is often termed New Zealand sandal-wood. When sawn it is of a deep-brown colour, with dark streaks and markings: it is of even compact grain, dense, heavy, very strong and durable. It is often used for fencing purposes on account of its strength and durability, but is more highly valued for ornamental cabinet-work, turnery, and inlaying.

82. Ngaio (*Myoporum lætum*), Banks and Solander; "Forest Flora," Plate 124. Kermadec Islands to Otago.

A shrub or small tree, sometimes upwards of 30 ft. high, with a trunk 1 ft. or more in diameter; leaves 1 in. to 4 in. long, ½ in. to 1½ in. broad, thickly dotted with pellucid glands; the white flowers form small clusters in the axils of the leaves. The wood is of a deep-brown colour with black streaks, which often form an irregular figure; it is dense, hard, and durable; it is used for fencing and other rustic purposes, also for ornamental cabinet-work and inlaying.

83. Toru (*Persoonia toro*), A. Cunningham; "Forest Flora," Plate 74. Mongonui to Rotorua.

The toru rarely exceeds 50 ft. in height, with a trunk 1 ft. to 2 ft. in diameter, and is often reduced to a shrub, branched from the base; the leaves are very ornamental, 4 in. to 8 in. long and ¼ in. broad; the flowers are about ¼ in. long, and spring from the axils of the leaves. The wood is of a deep red colour and beautifully marked, but rather brittle, and not durable when exposed. It is valued for ornamental cabinet-work, and especially for inlaying.

84. Milk-tree (*Paratrophis microphyllus*), Bentham and Hooker f. North Cape to Otago.

A shrub or small tree, sometimes 30 ft. high, with trunk 1 ft. to 2 ft. in diameter, clothed with smooth pale bark, which exudes a copious milky juice; the leaves are ½ in. to 1 in. long, and the flowers are inconspicuous. The wood is white, compact, and even in the grain, but rather soft and not durable.

85. Makomako (*Aristotelia racemosa*), Hooker f.; "Forest Flora," Plate 113. North Cape to Stewart Island.

The "wineberry," as it is commonly termed, is one of the most frequent plants in the colony, forming a shrub or tree 10 ft. to 30 ft. high, with distant slender branchlets clothed with red bark; the broadly-ovate pointed leaves are sharply toothed and almost membranous; the rosy flowers are produced in vast abundance in the early spring, and render the tree most attractive. The wood is white, straight in the grain, and often prettily figured, it is very light and of small durability, but it is highly valued for the manufacture of charcoal for certain kinds of gunpowder.

86. TUMATUKURU (*Discaria toumatou*), Raoul; "Forest Flora," Plate 136. Port Waikato to Southland.

Usually a low shrub, but in mountain valleys attains the dignity of a small tree 20 ft. high, and is easily recognised by the stout rigid spines, which were formerly used for tattooing. The wood is strong, tough, and durable; before roads were generally opened in mountain districts it was often converted for building purposes, and was greatly valued.

NATIVE BARKS SUITABLE FOR TANNING.

1. TANEKAHA (*Phyllocladus trichomanoides*), Don. The bark contains 23 to 28 per cent. of tannin, which possesses special value as an organic mordant in the preparation of basils for kid gloves. It has realised from £30 to £50 per ton in London for this purpose, but is used chiefly in France. The tree is plentiful north of the Waikato. There can be little doubt that the phyllodia, if collected in the spring, would be of considerable value for tanning purposes, and in all probability the bark and phyllodia of *P. glauca* and *P. alpina* would answer the same purpose.

2. TAWHERO (*Weinmannia silvicola*), Banks and Solander.

3. TOWHAI (*W. racemosa*), Forster. The bark of these fine trees contains from 10 to 13 per cent. of tannin, and could be obtained in vast quantities, especially in the South Island.

4. HINAU (*Elæocarpus dentatus*), Vahl. This is of still higher value, as the bark contains 16 per cent. of tannin.

5. POKAKA (*Elæocarpus hookerianus*), Raoul. The bark contains 10 per cent. of tannin.

6. MAIRE TAWHAKE (*Eugenia maire*), A. Cunningham. The bark yields 16·7 per cent. of tannin. The tree is almost restricted to the North Island.

7. RATA (*Metrosideros robusta*), A. Cunningham. The bark contains 18·5 per cent. of tannin, and can be obtained in large quantities.

8. TOOTH-LEAVED BEECH (*Fagus fusca*), Hooker f. The bark affords 7·6 per cent. of tannin.

9. RIMU (*Dacrydium cupressinum*), Solander. The bark contains 4·3 per cent. of tannin, and could be obtained in vast quantities at small cost by stripping the logs before sawing.

10. KOHUTUHUTU or KOTUKUTUKU (*Fuschsia excorticata*), Linné. The wood of this common tree contains 5·3 per cent. of tannin, but in all probability a larger yield could be extracted from the leaves and young shoots.

11. TUTU (*Coriaria ruscifolia*), Linné. The bark of this common shrub affords 16·8 per cent. of tannin, but is rather slim. There is, however, good reason to believe that a profitable extract could be obtained from the stout spring shoots and leaves.

SUGGESTIONS FOR THE MANAGEMENT OF THE NEW ZEALAND FORESTS.

THE following article is extracted from a report by George S. Perrin, F.L.S., F.R.G.S., Conservator of State Forests, Victoria:—

THE EXPERIENCE OF OTHER COUNTRIES.

The value of timber from New Zealand forests which has been used in the building of prosperous provincial cities and in other directions during the past fifty years is not easily estimated. It is quite safe to say, however, that the kauri-timber alone thus used represents an almost fabulous sum of money. Yet, in spite of expert evidence as to the utilisation of these magnificent resources, in the face of rapid denudation of forest areas near the centres of trade and industry, the probable total extinction of the noble kauri, and the absolute certainty that thousands of acres of forest are practically perishing—since, unlike those of Victoria, New Zealand forests do not readily renew themselves by natural growth—the extraordinary fact remains that in the past forest-conservation has been allowed to retrograde, although disaster must inevitably result from such neglect in the loss of timber-supplies.

Nature invariably avenges reckless disregard of her laws, and if the firestick is thoughtlessly used to strip hillsides of their natural protectors, floods and landslips very soon destroy the arable country at their bases. Because, up to date, no very serious disasters of this kind have overtaken New Zealand farmers it by no means follows such will not occur. On the contrary, it may be regarded as certain that, unless the teachings of experience in European forestry lead to the adoption of such scientific means as are there employed, the occurrence of disaster is merely a question of time. Although not due to precisely the same causes, the disastrous floods at Napier, whereby property valued at £100,000 was destroyed, is an illustration of what is likely to occur through deforesting. All experience shows, indeed, that a disregard of the value of trees in the economy of daily life entails serious consequences upon the country interested; that the wholesale destruction of timber-trees is a national mistake; and that reparation of damage thus caused involves the outlay of enormous sums of money.

France, for instance, stands as an object-lesson and warning to those who oppose necessary official control of the timber-cutter's work. The French people cannot be regarded as a nation of fools; yet it would seem to the uninitiated clear evidence of folly that they permitted the destruction of timber on the slopes of the Alps and Cevennes to such an extent that already they have had to expend £850,000 in replanting a hundred and fifty miles of the denuded areas, and are still engaged in the gigantic task of reforesting a further six hundred miles. These mountains were at one time covered with timber. As the grazing of sheep and cattle extended rapidly, timber was ruthlessly destroyed in favour of the grass. Retribution followed. In due course the flood-waters, pouring down the sides of these mountains, carried and distributed over the valuable farm-lands—some of the richest in France—millions of tons of silt, sand, and stones, rendering utterly valueless tens of thousands of acres of splendid country, till the scheme of reforestation above referred to became an imperative necessity.

In view of the experiences elsewhere, the question of how best to deal with conservation of forests must be regarded as of momentous importance to the people of New Zealand, since upon the efficiency or otherwise of the work undertaken depends whether they shall gain a substantial revenue from their timber or suffer tremendous national loss.

THE CUTTING-OUT OF TIMBERS.

The sawmiller should be encouraged to place his mill in such a position as will insure the readiest means of cutting out timber in "rotation blocks," marked out and shown on working-plans, to provide for the removal of one block per year, a sufficient number of blocks being so laid out as would enable the miller to carry on work continuously for a stated number of years. The exact number, of course, depends upon the length of time required to bring the young trees, either planted by hand or growing up naturally, to maturity. Such sawmill-sites should, in the first instance, be let by tender, and no more than one mill should be allowed to operate on the same series of "rotation blocks." The effect of this system would be to check that undue competition by close proximity of several mills which results in too close a cutting of the forests. It would also insure greater care on the part of the sawmiller, by giving guarantee of permanent occupation for the stipulated period. The annual output could be gauged by the work of previous years at each mill, and thus the size of blocks required for an annual supply could be determined. This briefly describes the "rotation" system of cutting, which should be carried out on a working-plan approved at headquarters, and from which no deviation should be allowed.

NATURE OF MEASURES NECESSARY.

1. A new Act, or amendment of Acts now in force, should be passed to create a Forest Department, and fix the status, duties, and emoluments of its officers. Power should be given—(1) To make permanent and inalienable existing reserves, no curtailment of area being permitted except such as is sanctioned by both Houses of Parliament; (2) to permanently reserve such other areas as from time to time may be found necessary. Political interference with the actual working of the forests, apart from State policy, should be specially guarded against. The Conservator should manage the forests from a scientific and national standpoint, giving due consideration to all interests involved. All technical work should be left to his expert and trained judgment, and in no case remitted to the political chief, who should, as far as possible, give the Conservator a free hand with regard to his professional duties.

2. No new settlement within the area of State forests should be permitted, and where such have been established the settlers should be bought out.

3. Areas should be so reserved that each forester could supervise one large or a group of smaller forests, except in sparsely timbered districts. State forests should not be of small area; such are relatively more expensive to supervise and work than those of large extent.

4. It is absolutely essential that the chief officer, or Conservator, should be a trained expert, otherwise the principles of scientific forestry cannot be carried out, and the work of the department must end in failure.

5. The Conservator should have absolute authority in all matters of technical or professional detail connected with plantation, conservation, supervision &c.; also over the employés of his department. To this end, he should have special powers, and be entirely free from political pressure or interference of any kind.

6. Apparently, the only means of making this officer independent of political influence would be the creation of a powerful buffer between him and the Minister who presides over his department. Such a buffer could only be provided by constituting a Forest Board of three Commissioners, with the Conservator as *ex officio* Chairman. The Trust should be non-political, and meet once a month, members receiving a stated fee for each attendance. The duties of these Commissioners would be,—(*a*.) To safeguard the forests as national property against all attempts at encroachment by private individuals or local bodies. (*b*.) To act as a board of advice to the Minister on questions of forest policy, such as royalties, increase or reduction of forest areas, and generally to strengthen the hands of the Conservator. (*c*.) To submit an annual report upon the work of the department during the past year.

CULTURE OF FOREST-TREES MUST PROCEED WITHOUT BREAK.

The life and growth of trees vary to such an extent that years must of necessity elapse before a system modelled on the French, German, Swiss, or Indian forest-codes can be fully worked out. Any interference with the Conservator in carrying out the details of his scheme must therefore in many instances render futile the work of years, and in some cases risk the overthrow of the entire system. It must be remembered that the culture of forest-trees entails a "rotation" plan, extending from forty to eighty years. However well conceived and carried out such a plan may be, any "break" must overthrow it. It is quite simple for a Minister, influenced by people who are ignorant of forestry principles and requirements, to cause such a "break," but it is a work of greater difficulty, which involves many years of time lost, to repair the damage so done.

For all these reasons the foundation and most essential condition to the establishment of a successful Forest Department is an Act of Parliament giving the Conservator of Forests secure tenure of office and ample powers to insure the uninterrupted and continuous progress of the work intrusted to him. This Act should contain clauses to provide that all timber areas now in the hands of the Government (or that may be hereafter acquired from the Maoris) should be proclaimed permanent State forests, and should be safeguarded by the most stringent conditions. It should further provide for the adoption, in working the forests, of the broad principles of systematic and fixed conservancy, details being left entirely in the hands of the skilled officers; and insure the officers from all danger of intimidation in the exercise of their duties.

DEMAND FOR WOOD-PAVING, ETC.

Enormous quantities of timber are required to meet the great and increasing demand for wood-paving in all the great cities of the world—a trade as yet only in its infancy. When the authorities really grasp the fact that Australian hardwoods are absolutely the best timbers in the world for such purposes the possibilities of forestry will assume startling significance, and neglect to provide for profit from this demand must be regarded as almost criminal.

Blue-gum is largely grown in New Zealand, and as soon as jarrah and red-gum become scarce (the latter already is so in most of the colonies) this timber must be one of the foremost in public favour, being particularly adapted for wood-paving, and especially so for such use in wet places. Large plantations of these and other *Eucalypti* (which mature so rapidly that in twenty-four years they are ready for the sawmiller) could be planted with great profit, both by the Government and by private persons.

Already the Americans have become dissatisfied with their own deals for street-paving, and the City of Philadelphia has commissioned its Museum authorities to inquire into the suitability in price, quality, and quantity available of Australian hardwoods for this purpose. This fact alone indicates the probability of an extensive trade in such timbers in the near future.

During the past forty years millions of money have been sent to America in payment for the soft woods of that country, and now there is every probability, if our opportunities are seized upon, of some of these millions coming back to Australia.

The cultivation of such *Eucalypti* as may be found by experiments now being conducted in Melbourne and elsewhere most suitable for the purpose, opens up a vast field for the operations of up-to-date forestry, and there is no reason why New Zealand should not compete with the other colonies in supplying the demand for these timbers, while her own indigenous timbers will become too valuable for use in this way.

CONCLUDING REMARKS.

I feel bound once more to warn the Government of New Zealand that if forestry operations—of such vital and momentous importance to them—are not placed at the outset upon a solid and permanent basis no practical good can result. No half-hearted measures, no subsequent "tinkering" with the subject, can insure the maintenance of the forests and profitable use of their timber. It is absurd to appoint experts, waste money upon a "bastard" system, and yet allow what little good work might be done even under that to be neutralised by alterations of policy on a change of Ministry or in the exigencies of some political interest.

Systematic and scientific treatment has been proved and recognised as indispensable in the experience of every one of the older countries. Such treatment cannot be applied if the system is disarranged merely to oblige Jack, Tom, or Dick, who supposes that an elector's or miner's right gives him authority to burn, cut, or otherwise destroy timber at his own sweet will, and without any reference to the rights of the people as a whole, who really own the forests.

If in these suggestions I have been able to throw any light on a somewhat difficult problem, and through my candid criticism on the position which forestry unfortunately occupies on this side of the globe New Zealand reverts to real forestry, and takes it up this time in a large-hearted, vigorous fashion, determined that there should be no faltering or turning back, then I am certain she will find her forests a blessing and means of employment to thousands, and the Government will never regret any money spent in insuring systematic scientific conservation.

KAURI-RESIN.

Although a true resin, this is usually miscalled kauri-gum. It is the solidified turpentine of the kauri, and occurs in great abundance in a fossil condition in the northern part of the Auckland Provincial District, from the North Cape to Middle Waikato, and is dug up alike on the driest fernhills and the deepest swamps. The purest samples are found on the Cape Colville Peninsula. A large quantity is also obtained from the forks of living trees, but is considered of inferior quality, and fetches a lower price. At the present time gum-digging employs nearly or quite 7,000 persons, including Maoris and aliens.

In the fossil state kauri-resin occurs in larger or smaller lumps, from the size of a walnut to that of a man's head. Pieces have been found weighing upwards of 100 lb. When scraped, the best specimens are of a rich brown colour, varying greatly in depth of tint. Sometimes translucent or even transparent specimens are found, occasionally with leaves, seeds, or small insects enclosed. When obtained from swamps the resin is very dark-coloured, or even almost black, and fetches a low price. Waikato resin is the darkest of all. Transparent or semi-transparent specimens fetch very high prices, being used as a substitute for amber in the manufacture of mouthpieces for cigar-holders, pipes, &c. The great bulk is used in the manufacture of oil varnishes, and in all countries where much varnish is made it holds the chief place in the market. It is exported chiefly to England and the United States of North America. In 1860 the export was only 1,046 tons, valued at £9 per ton; in 1898 it amounted to 9,905 tons, valued at £59 4s. 9d. per ton. The following statement, taken from the Customs returns, shows the quantity exported in each year from 1891 to 1898, with the total value, and average per ton:—

Year.	Quantity.	Total Value.	Average per Ton.		
	Tons.	£	£	s.	d.
1891	8,388	437,056	52	2	1
1892	8,705	517,678	59	9	4
1893	8,317	510,775	61	8	3
1894	8,338	404,567	48	10	5
1895	7,425	418,766	56	8	0
1896	7,126	431,323	60	10	7
1897	6,641	398,010	59	18	8
1898	9,905	586,767	59	4	9

From the report of the Commissioners appointed in 1898 to inquire into the kauri-gum industry, are taken the following extracts:—

> The gumfields north of Auckland City comprise 724,000 acres; those south and east of Auckland 90,000 acres; total, 814,000 acres: and this area consists of 435,000 acres of Crown lands, 166,000 acres of Native lands not yet adjudicated upon by the Native Land Court, and 213,000 acres of private lands held by Natives or Europeans. This total area of 814,000 acres comprises the land known up

to the present to be gum-bearing, but may be greatly augmented by new discoveries, for lands in many parts of the district are being worked which some years ago were thought to be non-gum-bearing. There is also this peculiar feature about the gumfields of the north: that in many places two, three, and sometimes four layers of gum have been found, betokening the existence of two or three kauri forests, which on disappearing, or, as is probable, on being destroyed by fire in ages past, left in succession their quota or layer of gum in the ground. On this account it has frequently happened that fields which years ago have been pronounced worked out have been taken up again and profitably reworked, and this same process is going on at present.

In many respects the conditions which obtain with the gumfields of the Auckland District resemble to a remarkable extent those which obtained on the alluvial goldfields of the South Island: the richest deposits or layers in both Otago and Westland were discovered and worked first, and these were found near the surface. Subsequently the lower layers were discovered and worked, and thereafter ground was and is still profitably worked by combination of labour and improved means, which, owing to the small quantity of gold it contained, was declared worthless by experts a few years previously. Exactly so was it with the kauri-gum—the largest pieces, technically called "bold gum," were found on the surface, or barely embedded in the soil. Next, the gum-digger had to search for it 10 in. or 12 in. deep with the spear; then a second and third layer of gum was discovered on fields that were thought to be exhausted, and the large gum-spear, 8 ft. to 12 ft. long, was used to discover, and a hook to bring to the surface, the gum in the swamps, which a few years ago were not known to contain gum. At present the smallest pieces of gum are greedily sought after, which could not have found a purchaser in years past, and fields are worked which before had been considered worthless. The cry for the past twenty years has been that the product was nearly exhausted; but at the present day the output is nearly as much as ever, and the price of the gum is higher than ever before.

These remarks naturally lead to considering the likelihood of permanency of the gum industry, but, as we propose to deal with this question in connection with some other phases of the subject, we shall content ourselves now with simply expressing our profound regret that an industry which up to the end of 1897 has yielded product for export to the value of over eight millions sterling, has not been made to contribute anything to the revenue of the country, although the procuring of that product involved the destruction of the little soil on the land from whence it was dug, and a large expenditure annually for reconstruction and maintenance of roads from the gumfields to the towns and shipping-ports. We have evidence to show that kauri-gum is a unique article among gums, inasmuch as it has good qualities not found among other gums: but it stands unique also in this respect, that it is the only product which has been practically allowed to be abstracted from Crown lands without being paid for.

The persons engaged in procuring the gum from the soil may be divided into three classes, namely: the diggers proper, who entirely depend for a living upon the gum; the settlers, who, as a rule, only occasionally work on the gumfields to supplement their earnings from the land; and the Maoris, who take to gum-digging only when their crops prove a failure or their stock of provisions gets exhausted. The mode of working is invariably that with spear and spade, and, except in the case of the Austrians, regarding whom particulars will be given in a subsequent part of this report, there is no combination of labour, but every man works for himself.

For digging gum on Crown lands a license-fee of 5s. has been charged in years past. The collection of this fee was left to the several County Councils. These, however, with one exception—that of the Hobson County Council—abandoned the collection, as they found that the cost of doing so amounted to as much, and in some cases to more, than the sums collected; moreover, the Collector of the Hobson County, in his evidence, after enumerating the many difficulties he had to encounter in trying to obtain payment of this fee, expressed his opinion that the revenue derivable therefrom was not worth collection

For the right to dig gum on private lands or on Native lands various systems of charges are in vogue. In most cases payment of a fee ranging from £1 to £7 10s. per annum is the condition of being permitted to dig gum; but, in the case of those holders of private lands who are storekeepers, the usual arrangement is that the gum-digger working on such lands must sell his gum and obtain his provisions or stores from these storekeepers. A great deal of gum-digging is carried on upon lands owned by absentees, but administered by agents in the colony, and your Commissioners have been urged to recommend the Government to acquire these lands by repurchase, for the benefit of the industry. It is a matter to be deplored that these gum-lands have ever been parted with; but, seeing that they are now being worked for gum, we cannot perceive the necessity of the country incurring a large expenditure for the purpose of simply enabling a few hundred diggers to obtain gum therefrom without paying an annual fee to the agent of the absentee. Wherever these absentee lands contain a fair proportion of cultivable land fit for settlement, we are, however, of opinion that Government should avail itself of the opportunity given of obtaining it for that purpose at a reasonable cost per acre, and so give the diggers employed thereabout the opportunity of establishing a permanent home for themselves. There are also other lands owned by non-residents, from which gum-diggers have removed and are removing quantities of gum, apparently under the idea that non-interference in the past constitutes a right under which they can help themselves to the gum and sell it to the storekeeper.

The great drawback to settlement in most parts of the country north of Auckland is the scattered nature of the really good settlement-lands. Generally speaking the good land is in the valleys, and is of comparatively small extent: 5,000 acres here, then a stretch of perhaps ten miles of poor pipeclay gum-lands; next, 6,000 acres of fair settlement-lands, and again a stretch of fifteen miles of pipeclay lands, and so on: thus necessitating many miles of roads to connect the various settlements. The first requirement for successful settlement, next to good quality of soil, is the road communication, and this is kept in the worst possible state through the damage and mischief done to the roads by the gum-traffic. The state of these roads in winter time is bad beyond description. The Kauri-gum Industry Inquiry Commission that reported in 1893 stated as follows:—

"The present desperate condition of the northern roads is due chiefly to the gum traffic, including under that term the cartage of stores to the fields, as well as of gum from them. Other causes, such as, in some parts, the cartage of timber, have their share in the mischief, but the gum is chiefly responsible. In the Maori parts of the district the surface of the ground which is supposed to indicate a line of road is reduced to a state scarcely describable, by the use of bullock-drays, which in proportion as they destroy the roads require the services of a more numerous team of bullocks, and by this means the mischief is continually augmented. Some particulars relating to this subject may be found in various parts of the evidence; but it would be very difficult to pen any description which would enable the state of the roads to be realised. It is sufficient to say that their condition is now such as to render nugatory any prospect for future settlement which the North might otherwise have; that it largely increases the cost of carriage, and so renders living much more onerous to the gum-digger as well as the settler; that it wears out and destroys to a lamentable extent the live-stock, to say nothing of the men engaged in the work of conveyance; that the county authorities and Road Boards have no adequate means of improving it, but are obliged to leave it a permanent and hopeless impediment to the progress and prosperity of the country."

This description of the roads, given by the former Commission, as to their state, applies to-day. We have it in evidence that in many cases the charges for freight from certain gumfields to shipping-port or town, and *vice versâ*, during seven months out of the year ranges from £3 to £3 10s. per ton, when a charge of 10s. to 15s. per ton would be quite as remunerative to the carter if there were properly constructed roads. In other words, the cost of living would be reduced to the gum-digger by about 1s. 6d. per week, and the carriage of his gum by 3s.

per hundredweight. On the other hand, proper road communication with a shipping-port, &c., would be a boon to the struggling settlers of the North, that in many cases would mean transposing failure into success, and would enable them to establish themselves permanently on their holdings. It may be mentioned here that it is the absence of suitable road-metal in the north of Auckland that makes the construction of roads so expensive in that district, and accounts for their being speedily cut up and transformed into quagmires by gum-traffic, &c., as soon as the wet season sets in.

The gum industry, though in so many respects a blessing to the Auckland District, has had its abuses, and has in some ways acted detrimentally to that part of the colony; but for this, it must be admitted, those that have had the administration of affairs are to be blamed rather than the industry itself. Under judicious management it should have been made to yield the means requisite for supplying the arterial lines of communication for the whole of the North, and steps should have been taken to counteract, to some extent, the evil effects to the soil which are so apparent to any one traversing our gumfields. The ground has been roughly dug up wherever gum was suspected to exist, and the thin layer of top soil, generally only a couple of inches thick, was buried a foot or more; deep holes were made, and left unfilled; and even the very roads were dealt with in the same way; but what has led to far greater destruction of the soil was the continual burning-off of the tea-tree and fern. The gum-digger does not cut down and clear away the vegetation on the surface of the ground he wishes to work for gum. Doing so would be too much trouble to him, and he therefore has recourse to the simpler method of "putting a match into it," and burning-off what there is of vegetation. If he were to adopt this method, and burn only the particular spot he meant to work, then no fault could be found with him; but invariably the fire is allowed to spread, and hundreds and often thousands of acres are burned, when the object was simply to work a few square yards, or, at the utmost, a few square chains of ground. This wanton burning-off is fearfully detrimental, even ruinous, to the ground, as the fire consumes the rootlets, pulverises the little soil there is, and then ashes and soil are carried away by the wind. There are stretches of gum-land everywhere throughout the North where repeated burnings have caused every vestige of soil to disappear, and where there is nothing but the bare white pipeclay left. Not only has the soil been thus destroyed, but in many instances these gum-fires have caused great loss to the settlers—their fences have frequently been destroyed, their homesteads placed in imminent danger, &c. On our journey north we saw the effect of several of these fires; at one place we found four telegraph-poles burned to the ground, and at least eight others badly damaged.

It is true that until lately there never seemed to be much chance of grasses taking root and growing on these gum-lands, but there is certainly far less chance of their doing so where the few inches of soil have disappeared altogether. This state of things is the more to be deplored, as experiments carried on during the last four or five years with the view of establishing grasses on poor gum-lands have proved fairly successful in several localities. The grass named *Poa brownii* has spread remarkably well in different places, and seems even to drive the small tea-tree off the field. Although it is not a very nourishing grass, and is not one of which stock is particularly fond, it is better than the natural growth on these gum-lands—viz., fern and tea-tree, which neither cattle nor sheep will eat. There are, besides the *Poa brownii*, several other grasses, such as rat-tail and buffalo grass, which are making fair progress in some parts of the gumfields.

While on this subject we may also direct attention to the very valuable experiments with gorse carried on by Mr. T. C. Williams, of Wellington, at Pakaraka, under the supervision of his son (Mr. Guy Williams), who kindly showed us over the estate and explained the cultivation and working of the gorse-culture for pasture. A perusal of his evidence attached to this report will no doubt be read with great interest. The procedure, in short, is this: The ground is ploughed, and gorse is sown either broadcast, or in drills or rows 3 ft. apart, leaving a space sufficiently wide to allow the sheep to pass up and down between the rows. When the gorse reaches a certain height, stock is turned in, and the gorse eaten down. The stock is then removed to the next paddock, then to a third and fourth, by which time the first paddock is ready again for pasturing. Experiments of various descriptions have been made by Mr. Williams as to gorse-culture, and the fattening of stock, into the particulars of which it would not be expedient to enter here. Suffice it to say that land which formerly would not feed a sheep to the acre has been made to carry and fatten five and six sheep to the acre when planted with gorse. It has been proved beyond a doubt that our gum-lands are capable of being thus cultivated to good purpose, and, as this is a matter of such great importance to the country north of Auckland, your Commissioners would venture to suggest the advisability of Government following up these experiments by setting apart a portion of our poor gum-lands as an experimental farm for gorse-pasture only, and by issuing pamphlets from time to time, giving the best courses of procedure, in order to instruct our settlers how to proceed to put these clay-lands to a profitable use. It is in view of the prospect of this future usefulness of the poor gum-lands that your Commissioners recommend that prompt steps should be taken to put a stop to the wanton burning-off of the scant vegetation thereon, and a heavy fine should attach to any digger burning more than about a chain square at a time. It would be still better if "burning-off" on gumfields could be prohibited altogether.

Another use to which our gumfields might be put is the planting of marketable and useful trees. On many parts of the gumfields—more especially those which have escaped the ravages from fires—the natural growth (tea-tree and fern) is sufficiently high and thick to make tree-planting rather precarious on account of fires; but no such objection could be urged to planting pipeclay lands, which carry only small stumpy tea-tree and fern of a foot or less in height, or those clay lands from whence the little soil has disappeared by reason of repeated burnings. It is strange, but true, that several of the European and Australian trees will grow where the top-soil has disappeared, and where neither fern nor tea-tree seems able to start growing again. Judicious tree-planting, therefore, and more especially the sowing of seeds of suitable grasses, which on many parts of the gumfields have proved a success, would be of immense benefit to the North, and assist in gradually transforming the waste of clay and gum-lands into useful country. The cost of any seed-sowing or tree-planting would, of course, be a legitimate charge against the export duty, which your Commissioners recommend further on.

Regarding the permanency of the gumfields, a mass of contradictory opinions was expressed by the various witnesses examined. In many cases the opinions given—that the fields would soon be exhausted—have reference only to the particular part of the gumfield on which the witnesses happened to live, or with which they were familiar: not a few of those best acquainted with our gumfields as a whole consider that the present generation will not see the end of the gum industry in New Zealand, and your Commissioners are strongly of opinion that this will be fully verified. Fresh fields and new layers of gum are being constantly discovered, and immense areas of the known old fields have only been touched here and there, or have practically been only "skimmed over." It is all but certain that systematic and co-operative working of the fields will in years to come replace the present working by individual diggers, and fields now abandoned will be re-worked. It has been urged that the gradual decrease of gum export since the time the first Commission reported in 1893 to the present time is a proof positive that the gum is getting scarcer. Such, however, is not the case.* In 1893 there was a great over-production of gum, and this, together with the commercial crisis in America, Europe, &c., in subsequent years brought about a drop in the price of gum of £15 per ton in round numbers. Soon after the mining boom began in New Zealand the timber trade became exceedingly brisk. Thousands of those employed at gum-digging left that occupation and found work on the goldfields and in the forests, and of course the output of gum proportionately diminished. It is a matter for congratulation that this turn of events took place, for it at once relieved a glutted market, and raised the price to its former height. At the present time, as already stated, the price is higher than ever before in the annals of the gum industry. The export during the year (1897) was 6,641 tons. Roughly speaking, the requirements of the trade in London and New York—our two principal markets for kauri-gum—are 8,000 tons per annum, and hence the large rise in price. To insure good prices in the markets the output of gum must be restricted to the above tonnage per annum, and special encouragements to go upon the gumfields should on no account be given; legislation, indeed, should be entirely in the opposite direction, lest we be made to pass through a season of low and ruinous prices again, as in 1894. These considerations, we respectfully submit, are another powerful argument for the imposition of an export duty, for the purpose of compensating the North to some extent for the great losses suffered in the past through the gum industry, and for enabling the different counties to construct the much-needed roads.

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* This opinion of the Commissioners has been completely verified as correct by the fact that the quantity exported in 1898 (9,905 tons) is the largest yet recorded.

Many of the settlers have brought under your Commissioners' notice the desirability of reserving special blocks of gum-land for the exclusive use of the settlers in their several districts. While realising the desirability of making some of the reserves thus specifically applied for, in order to insure to the genuine settlers gum lands conveniently situated, and so give them the opportunity of earning some money for the further improvement of their holdings, we consider that the carrying-out of the project is beset with many difficulties. The surveys of these blocks would involve a very heavy and perhaps a practically useless expenditure. Many of the settlers, there is reason to believe, prefer to be at liberty to dig gum where they please. These special reservations, moreover, would be a source of dispute and strife, and would require continuous supervision to prevent trespass. Your Commissioners, therefore, do not see their way to recommend that such special blocks of gum-lands be reserved for particular sections of the community.

An indirect result of the kauri-gum industry has been to a certain extent to diminish the resourcefulness of settlers themselves. In other parts of the colony a farmer has to rely upon the proceeds of his farming industry for his sole subsistence and that of his family, but in the North the knowledge that a few pounds can always be obtained by gum-digging prevents some of the settlers from obtaining all the benefit that could be wrested from the tillage of the soil. Nor has the northern settler gained greatly by being able to furnish supplies to the large number of gum-diggers around him. The food supplied by storekeepers to diggers is in most cases imported from abroad — tinned meats, tinned milk, tinned butter, tinned fish, tinned fruit, &c., being the staples of consumption, not only in the diggers' tents, but in the accommodation-houses also of the far North.

The men known as Austrians on the gumfields are visitors from Lower Austria. They are mostly natives of Dalmatia, but some are from Istria and Croatia, a few also being from the Balkan States—Montenegrins, Bulgarians, &c. They are a hardy, sober, industrious, law-abiding people. This character is given to them with one consent by all the witnesses, whether storekeepers, settlers, or British gum-diggers. In their own country they were mainly agriculturists, engaged at work in the vineyards, olive groves, &c.; but some are fishermen from the islands in the Adriatic. Many of them are very young men, and it is asserted that their desire to escape military service prompted emigration. Very few of them have wives or children in this country, but many of the older men have families in Europe. Those who have already put in part of their time at military service have every now and then to report themselves and get their passports *visèd* by the Austrian Consul in Auckland; but the younger men do not attend at the Consulate for this purpose, and hence there is no check upon the number arriving or leaving the colony. (*Subsequent events have shown that check is possible.*) They speak a Slavonic dialect, not German. The older men are not educated, but the younger men can all read and write, under the excellent system of education that now obtains in Austria. They appear to have strong family affections, much of the money sent home being for the purpose of aiding brothers and other male relatives to come out here also, or for the purpose of helping their families at home. They appear to have been attracted to this country by accounts sent from New Zealand some years ago by two sailors, but still more recently by the return of some lucky Austrian gum-diggers, who took home some £9,000 drawn in one of Tattersall's racing-sweeps. They began to appear on the gumfields in great numbers, and we consider that there are between fifteen hundred and sixteen hundred now in New Zealand, but they are so widely scattered, and their numbers are so constantly changing locally, that it is difficult to give the exact enumeration. It is said that there has been failure of the fruit-crop, and general scarcity, of late years in Dalmatia, and, if so, it would account for the necessity of many leaving home in search of work; but, as most of the men earned previously, on an average, only 1s. 2d. a day, it is easy to understand that the country in which some of them are gaining from £3 to £5 a week would have sufficient attractions, without even the spur of hunger behind them.

They generally camp together in twenties or thirties, digging in the swamps in summer and on the hills in winter. They work very long hours, often being in the field awaiting the first light of dawn to commence their labour, and ending only when darkness compels them to desist. The evenings and part of the night they spend in scraping the gum. Unlike the British gum-digger, who is generally a solitary worker, the Austrians seldom stray from each other, and upon a rich find of gum being made they all proceed to work it "on the face," as it is technically called—that is, digging up and turning over the whole of the ground, sometimes for many feet in depth. This is, of course, the proper method to pursue if the whole of the gum in the ground is to be removed, but is one of the causes of offence alleged against them by the British digger and the settlers, as the thoroughness of the manner in which the ground is cleared leaves no hope of any gleaning after them. Formerly the digger or settler prodded here and there, dug a hole in a likely looking spot, and then wandered on: there was probably as good gum behind him as before him; but no one could hope to work after the Austrian digger with any prospect of success. The Austrians live frugally at first, and with due regard to their own slender finances; but after being here a little while, and earning money, they soon find that to continue labour in the exhausting manner they work, and for such long hours, a more generous diet is indispensable. Their food on the gumfield costs them generally 10s. to 14s. a week, and consists of tinned meat, potatoes, flour, lard, coffee, butter, &c., averaging quite as much as that of the British digger.

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The trade in kàuri-gum practically commenced in 1847, and its price continued from that date up to 1853 to be about £5 per ton. After the year 1853 the fluctuations, both in value and tonnage, of the gum were of an interesting character. . . . . The quantity of gum exported increased from 1,440 tons in 1856 to 8,317 tons in 1893, and since that date has diminished to 6,641 tons in 1897. The price has, however, steadily risen, till it now stands at the highest figure it has ever attained—that is, at from £60 to £70 for the best samples. Much less gum is now obtained by the individual digger than was formerly the case, some witnesses considering it as fully one-half, others one-third less. The steadily rising price enables a living to be obtained, even with the lesser quantity procured, and this increasing price justifies the idea that the rise in kauri-gum is not only because of the demand caused by the world's larger population, but also on account of the industrial virtues of the gum making it recognised as an indispensable ingredient in the manufacture of good varnish. It is true that there are other competitors with kauri-gum in the market; of these, the principal is that called Manilla, the Zanzibar and other African gums not being produced in sufficient quantity to offer effective rivalry. On this subject we will quote from the report of the former Commission the remarks made by Mr. Ingham Clarke, F.L.S., F.R.G.S., an eminent London varnish-maker. He says:—

"The total annual imports of varnish gums into England, a part of which is re-exported, amount to about 4,000 tons, nearly two-thirds being represented by the kauri-gum of New Zealand. About 400 tons come from our West African colony of Sierra Leone, 400 or 500 tons from the Philippine and adjacent islands (usually known as Manilla gum), and the remainder from various parts of the world. The "gum animè," exported from Zanzibar, is a high-class gum, but very limited in quantity, and is worth, in London, from £200 to £350 per ton. Manilla gums are so like the kauri-gum in appearance that it is almost impossible at sight to distinguish them, the greatest adepts being able to do so by the sense of smell only. The Manilla gums have all some tricky characteristic, which causes trouble to manufacturers even months after the varnishes are made. Some qualities are used in the manufacture of certain grades of ordinary varnishes. Others are unfit for use in the manufacture of oil varnishes. The Damar gums are unsuitable for oil varnishes, being only employed in the manufacture of spirit varnishes, and do not come at all into competition with kauri-gum. Kauri-gum commands a supremacy in the market. There is, however, a shadow to this pleasant picture, for the excessive production, stimulated by the ever-increasing demand, is, without doubt, rapidly exhausting the known sources of supply. If it were not akin to heresy in these days to make such a proposition, one would be inclined to suggest that the New Zealand colonists should place an export tax on gum. No other gum could take its place, from a peculiarity which it possesses (entirely its own) of assimilating with oil more rapidly and at an easier temperature than any other gum. The Manilla gums, it is true, enter largely into competition with kauri; but, as we have already stated, they are treacherous in use, and mostly contain strong acids and other objectionable substances, thereby upsetting all theory and practice, and resulting often in injury to the manufactured article, and subsequent regret to those who use them. Kauri-gum is extensively employed by the leading manufacturers in every country where varnish is made. This universal favour we by no means attribute to the superior results to be obtained by its use, but rather to the fact that it is easier to manipulate—that is, it unites with linseed-oil quicker, and at a lower temperature, than any other gum. It is probable that the essential oil it contains acts in the fusing process as a solvent; hence, less heat being necessary, carbonisation is minimised, and a relatively paler varnish is the product."

The result of the Commission was "an Act to regulate the Kauri-gum Industry," which came into operation on the 1st January, 1899. It provides, amongst other matters, for the division of the North Island into kauri-gum districts; for kauri-gum reserves; two classes of licenses for digging—special and ordinary—and one for buying gum. There are qualifications prescribed as to who may hold licenses. Local authorities are to keep registers of licenses, stating names of licensees; and buyers, gum-purchase books. Rangers are to be appointed; and the police are to aid local authorities in carrying out the provisions of the Act.

THE GOLD-DREDGING INDUSTRY.

[By P. Galvin, Secretary Mining Bureau.]

From very small beginnings, the gold-dredging industry has, in the course of about thirty-five years, become one of the most stable in this colony, affording employment to large numbers of miners, carriers, engineers, and fitters, and returning considerable profits on the capital invested. For some years past the engineering shops in Dunedin have been fully employed, and of late they have been working at high pressure, to keep pace with the demands for new dredges and alterations and improvements in those already working; while in some of the towns along the Clutha River engineering shops have been springing up, and workmen are profitably employed. In this branch of mining New Zealand takes the foremost position, and inquiries are frequently received from Siberia, New Guinea, Borneo, California, British Columbia, and the Australasian Colonies as to the methods in vogue for dredging auriferous streams in this colony. Recently two Russian gentlemen, who are largely interested in gold-dredging in Siberia, came to Otago on a tour of inspection, and visited the principal dredges; and so well satisfied were they with the improved methods and appliances which have been brought to such a state of perfection in Central Otago, that they gave an order to the firm of A. and T. Burt (Limited), Dunedin, to construct three dredges from designs supplied by Messrs. Cutten Bros., who have made a speciality of dredge construction. Dredges on the model so generally adopted in Otago have also been introduced into California by Mr. R. H. Postlethwaite, who acquired his experience in gold-dredging in Otago; and Mr. Satchell Clarke, who also gained his knowledge in Otago, is supervising the construction of dredges in England for British Columbia.

In a paper on "Dredging as a Profitable Means of Working Alluvial Auriferous Drifts," read before the New Zealand Institute of Mining Engineers on the 23rd August, 1898, Mr. W. H. Cutten has given a historical sketch of the dredging industry in Otago, and the evolution of the gold-dredge is thus traced from an iron ring and ox-hide bag to the perfection of engineering and mechanical skill shown in the illustration facing page 512:—

As far as the author can ascertain, dredging was first started on the Clutha River, near Alexandra, by a man named Brown, who made a primitive spoon-bucket dredge. This spoon was simply an iron ring and ox-hide bag, attached to a long pole, with a hauling-rope fastened to the iron ring, and led ashore to a hand-winch. The method of working was to carry the pole with the bucket attached out into the river in a boat and drop it down to the wash at the bottom, pressing the bucket hard down by means of the pole, while the whole contrivance was hauled along the bottom to the shore by the winch. The wash thus obtained was then cradled in an ordinary miner's cradle.

The next advancing step in dredging was taken by two men named Ben Knight and Edward Halliday, who made a larger and improved spoon-dredge. This consisted of a wooden punt about 26 ft. long by 12 ft. wide, and 3 ft. deep, carrying an ordinary hand-winch and a cradle. The spoon consisted of a strong iron ring bolted to the end of a long pole. The part of the ring furthest from the pole was flattened to form a cutting-edge, and to the back of the ring a bag was fixed, made of ox-hide. The punt was moored in the river by a rope and an anchor, while two poles were driven into the gravel, one on each side of the punt, to keep it steady. The spoon was lowered on to the bottom at the end of the punt furthest from the winch. A rope was fastened to the lower end of the pole near the spoon, and led to the winch on deck. Another rope was secured to the upper end of the pole and to the side of the punt, to hold the spoon down into the wash. At the winch, either one or two men wound the spoon towards the winch along the bottom, while another man pushed the spoon down into the wash and guided it by means of the pole. In this way the auriferous wash-dirt was scraped up into the ox-hide bag and lifted on to the punt, to be afterwards cradled to separate the gold. It took five and sometimes six men to work the dredge, and during the day of eight hours about fifteen tons of wash could be lifted in favourable dirt, but the quantity raised depended upon the nature of the ground.

Quite a number of these dredges were put upon the Clutha River at different parts, but mostly between the Townships of Manuherikia and the Dunstan—now called Alexandra and Clyde respectively. Some of these dredges did apparently very well, for, although the returns were usually kept secret, it sometimes leaked out that as much as 70 oz. to 80 oz. of gold had been obtained for a week's work. These dredges were mostly put on and worked by parties of working miners; but some were put on by private individuals, who paid the men wages ranging from 15s. to £1 per day.

During the time the spoon-dredges were working there were also extensive sluicing-claims being worked along the banks. These claims discharged immense quantities of tailings into the river, and the tailings so interfered with the dredges that they ceased to pay, and one by one they were laid up, sunk, or washed down the river by floods. A man named Sedeberg then built a steam spoon-dredge to try and cope with the drifts, or tailings, which were travelling in the river. As near as can be ascertained, this was in the year 1870, and it was the first occasion on which steam was used to work upon the river. The dredge was made with two pontoons, held apart by beams bolted on to the decks, so as to leave a well of about 3 ft. wide between them. A strong pole was driven down hard into the river bottom at the bow end of the dredge, and two struts of timber were secured to the lower end of this pole and to the two pontoons, at about the centre. A sheave or block was fastened near the lower end of the pole, and a chain passed through the sheave and to the steam-winch on deck. The spoon was somewhat similar to that used by Messrs. Knight and Halliday, but much larger. It was lowered at the after end of the dredge, between the pontoons, and was drawn along the bottom by a chain attached to the winch, then lifted by a rope attached to the spoon. This machine was kept working for about two years, and paid fairly well for a time. Although it lifted much more dirt than the ordinary spoon-dredge, it could not cope with the ever-increasing quantity of tailings coming down the river, and was finally abandoned.

After a lapse of some years, an enterprising engineer named Charles McQueen induced a number of Dunedin and Alexandra men to form a company and allow his firm to build a steam bucket-and-ladder dredge. During the time this dredge was being constructed another engineer named Scott built a small bucket-dredge with a wooden hull; but, although this was the first in actual work, to Mr. McQueen belongs the credit of constructing the first steam bucket-and-ladder dredge. The small dredge was called the "Eureka," and it was finished and made a start a short time before the large one, in the year 1882; but the fatal mistake was made in purchasing an old worn-out boiler and engines, which, being much too large, the weight crushed the pontoons out of shape and the machinery out of line, while the consumption of fuel was so great that the dredge did not pay. The engines and boilers were then thrown out, and side paddle-wheels fitted, which were driven by the force of the current in the river and transmitted the power to the buckets, while a number of square sheet-iron buckets attached to the paddle-wheels lifted the water required to wash the dirt. The dredge, after a varied career, fell into the hands of two working miners, who were fortunate in striking good gold. It has done so well ever since that its owners are now in very comfortable circumstances, and possess two fine large dredges of modern type. The dredge was kept working until 1890, when it was again fitted with steam-power to follow the leads of gold into the beaches, where there was no current to drive the paddle-wheels.

Meanwhile Mr. McQueen's dredge, or, rather, the Dunedin Company's dredge, started work in 1882. It was a most elaborate machine. The hull was 70 ft. long, 15 ft. beam, and 5 ft. deep, made of iron, and had a sharp bow. There were two bucket-ladders, one on each side of the hull, and two chains of buckets, driven by one set of compound condensing-engines set in the centre of the hull. The buckets discharged the spoil into two revolving perforated cylinders, which screened the fine dirt and gold into the sluice-boxes or tables. These boxes were fitted with revolving copper pans to amalgamate the gold, but they were soon thrown off as useless, and the gold caught on matting in the boxes. The two ladders were not altogether a success, for the alternate action of the dredging into the wash, first on the one side, and then on the other, occasionally rolled the decks under water, while the sharp bow made the dredge almost unmanageable in a strong current. Several dredge-masters were appointed, but none seemed to work the dredge satisfactorily or profitably, until an old miner and seafaring-man named McLay took charge. He had a pair of wooden pontoons fitted, one on each side, outside the ladders, thus increasing the stability. The dredge then commenced to pay, and did fairly well for some years; when her owner, either thinking the claim worked out, or that distant fields looked greener, floated the dredge some twenty-six miles further down the river to a place called Coal Creek Flat, where it paid remarkably well. For some time it was getting returns of about 150 oz. of gold per week, the highest being 175 oz. The two ladders were afterwards taken off, and one, with much larger buckets, substituted. The dredge is still running, though not doing so well; but during the sixteen years it has worked it has taken over 15,000 oz. of gold out of the river, of the value of nearly £60,000. . . . .

In the year 1889 a wealthy and enterprising Chinaman named Sew Hoy took up a claim on the Shotover, a tributary of the Kawarau River, which was known to be rich in gold in the early days. A company with 300 ten-pound shares was formed, and a small steam bucket-dredge put on the claim. Although the ground had been thrice worked by hand—twice by Europeans, and then by Chinamen—the dredge got so much gold that the ten-pound shares rose to nearly £250 each. A boom set in, and ground was taken up in all manner of places, quite regardless of its gold-bearing qualities. . . . Towards the end of 1892 there came a slump, and a number of the dredges which had been put upon the upper reaches of the Kawarau River, and did not pay, were sold in liquidation. Several of them were bought cheap by private parties, and shifted down on to the Clutha River between Alexandra and Clyde, where they got such good returns that the attention of the public was again turned to the industry, and a number of claims were pegged off along the low banks and beaches of the Clutha River.

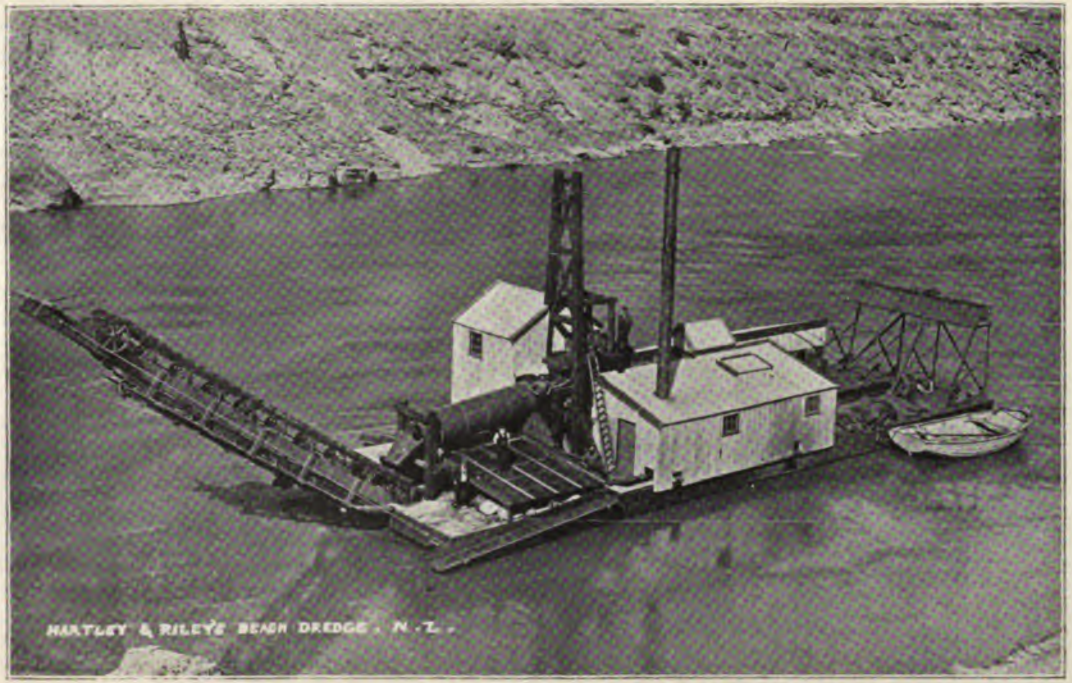
Up to this time the dredges were only working the river-beds and low beaches, but could not work the higher banks on account of the difficulty in stacking the tailings clear of the stern. In June, 1894, while engaged working the "Enterprise" dredge, the author was confronted with this difficulty, and took the matter in hand, designing and constructing a machine now called a "tailings elevator," which consisted of a ladder fixed to the dredge, and projecting over the stern at an angle of about 35 degrees to the water-level. On this ladder there is a continuous chain of buckets or, rather, trays, working over tumblers at the top and bottom of the ladder. The rough portion of the tailings, after being washed and separated from the fine by a revolving screen, were delivered into the elevator, carried up, and stacked to any desired height or distance from the stern of the dredge, according to the length of the elevator. This was the first attempt to deal with the difficulty, and the author has great satisfaction in stating that the success of this machine has simply revolutionised the industry. Claims have been pegged off, and dredges put to work claims where dredging was previously considered next to impossible, and now several large dredges can be seen tearing down the high banks of the Clutha, in some cases fully 40 ft. above the river-level, and passing the whole of the dirt through their gold-saving appliances.

For some time there was a pretty general impression amongst gold-dredgers that buckets lifting 2 cubic feet of wash were large enough, and that buckets of greater capacity would lift too much dirt to be efficiently washed; but experience has shown that such is not the case, and now most of the buckets made will lift 4 cubic feet and upwards; the Earnscleugh No. 2, one of the largest dredges, has buckets of 6 cubic feet. The evolution of the dredge, though somewhat remarkable, is not yet complete. In a recent communication from another consulting engineer in dredging matters, Mr. F. W. Payne, that gentleman states:—

The chief points of interest in the dredging industry at the present time I consider to be the development of elevating. A year ago a face of 20 ft. to 30 ft. above the water-level was looked upon as a big undertaking in the way of elevating the tailings, but at the present time dredges are being constructed to work into faces of 60 ft. or even 70 ft. above water-level. As regards the comparative lifting capacity of the dredges, a bucket with 3 cubic feet capacity was considered large a year or so ago, but at the present time the average size is 4½ cubic feet capacity. As the buckets generally travel at the same rate of speed—viz., twelve buckets per minute—the actual capacity of the dredge is as the difference in size of the buckets. The largest bucket at present working is 7 cubic feet capacity. The Magnetic dredge has buckets of 5½ cubic feet, and the Ranfurly (or Electric No. 3) 6 cubic feet.

A description of one of the most modern and up-to-date dredges lately put to work near Cromwell by the Hartley and Riley Beach Gold-dredging Company will not be inappropriate:—

The pontoons are 90 ft. long by 11 ft. wide, and 5 ft. 6 in. deep at bow and 6 ft. at stern. They are built of heavy timber throughout; each pair of uprights is braced by two diagonal struts, all the framing being of best quality blue-gum. A beam of kauri 21 in. by 5 in. runs the whole length of the craft inside, and helps to support the deck. The pontoons are double-lined with 4 in. kauri outside and 5 in. inside. The well, which only runs back to the tumbler framing, is 4 ft. 6 in. wide. The connecting ligature of the pontoons is a very powerful one, so that the whole structure is rigid enough to stand the great strain put upon it when working heavy ground. The whole of the pontoons are caulked and tarred, and there is no bilge. The tumbler framing is very strongly constructed, and is further strengthened by a pair of double steel rails, which are used as fore-and-aft struts, and which are bolted in the heavy beams running under the deck at the upper part of the side, thus increasing the rigidity of the framing. The framing is supported by uprights of kauri 14 in. by 14 in., braced by diagonal struts rising to a height of 14 ft. to tumbler centre. The masts for supporting the elevator rise to a height of 38 ft., and are braced to the forward deck. The elevator, which is 50 ft. long, delivers to a height of 27 ft., and is in a framing of 18 in. by 5 in. kauri. There are thirty-eight trays running on wheel-rollers, which causes less friction than running on



Hartley and Riley Dredge.

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The ladder is 70 ft. long, and carries thirty-eight buckets of a capacity of 3½ cubic feet: thus each complete revolution is capable of delivering about 5 cubic yards of stuff, supposing the buckets to run full. The rollers run in bushes supplied with self-feeding lubricators. The links are 2¼ in. thick at end and 1⅝ in. at centre. The gantry is of steel, and all the ropes are of the best quality. The works are covered in by substantial housing, and there is plenty of room on deck for the crew to move about.

In some places the cost of fuel is very high; in consequence it has been found advisable to use the highest class of engines and boilers obtainable, and the boilers are specially adapted to burn the local fuel, which is widely distributed, but is generally an indifferent kind of lignite. Electricity has been suggested as a motive-power, and it will not be surprising if a number of the dredge-owners are found co-operating in schemes for the transmission of electric power for working the dredges at such centres as Alexandra, Clyde, Miller's Flat, Cromwell, and other localities.

In a report recently furnished by the Inspector of Mines for Otago, Mr. Hayes stated that there were seventy-three working dredges in Otago and Southland; four were under removal, and nine standing, while fully thirty were building or projected—making a total of about one hundred and sixteen. In addition to this number, there are a few dredges at work on the west coast of the Middle Island, and a number of other dredges will shortly be placed in the rivers and streams in that portion of the colony.

As illustrating the state of perfection to which the New Zealand type of dredge has been brought, it may be stated that the largest is now worked with two men on an eight-hours shift, while the number employed in Siberia is ten or twelve. The dredge-master is generally an engineer, and, with six men to do the work, in three shifts, the 144 hours constituting the week's dredging is generally accomplished without much friction. This is principally due to the compactness and handiness of the winches, and to the simplicity of the machinery, which is almost automatic in its working. It is, however, open to question whether the improvements in the gold-saving appliances are in a corresponding ratio to the improvements effected in the ladders, buckets, and machinery of the large dredges recently built; but the engineers and dredge-masters, who have already accomplished so much in this branch of mining, may safely be trusted to make any required alterations for the saving of the fine gold that may escape under present conditions.

The expenses on a large dredge will be about £23 per week for wages, £16 for fuel, £2 for oil and sundries, and £12 for wear and tear to machinery—in all, say, £53 a week. In the smaller dredges the expenses are, of course, much less, £25 to £30 being sufficient to cover expenses. The two following tables, prepared from information supplied to the Mines Department by dredge-owners and masters, and the third table, from some of the companies' statements published in the *Gazette*, will be of interest:—

DIMENSIONS AND COST OF SOME DREDGES.

Name of Dredge.	Length.	Breadth.	Depth.	Length of Ladder.	Number of Buckets.	Capacity of each Bucket.	Average Weekly Cost of Working.	Number of Men employed.	Present Approximate Value of Dredge and Machinery.
	Ft.	Ft. in.	Ft. in.	Ft.		Cubic feet.	£ s. d.		£
Evan's Flat.. ..	60	24 0	4 6	36	26	3½	26 0 0	7	2,800
Tuapeka	60	24 0	4 6	36	26	3½	25 0 0	7	2,800
Sunlight	96	25 0	5 0	65	41	3½	30 0 0	6	2,000
Jutland Flat ..	84	20 2	5 2	52	29	3½	51 8 6	8 to 10	5,000
Enterprise	80	20 0	4 6	56	39	3	£40 to £45	7	3,000
Manorburn	..	..	..	50	33	3	49 5 6	8	3,000
Alpine	..	..	..	56	36	3	38 10 0	6	3,000
Unity	85	26 6	6 0	61	36	4½	45 0 0	7	5,500
Naseby	70	23 0	5 0	35	30	3¼	40 0 0	7	3,150
Carrick	..	..	..	50	35	3	30 0 0	6	4,000
Golden Terrace No. 1	90	18 0	..	72	44	2½	38 0 0	9	1,500
The Little Waikaka ..	66	24 0	2 6	33	26	2½	25 0 0	7	2,000

OPERATIONS OF SOME DREDGES.

Name of Dredge.	Locality of Operations.	Nature of Material operated on.	Depth from which Material is dredged.	Average Quantity of Material raised per Hour.	Number of Cubic Yards raised and treated during Year.	Cost per Cubic Yard.	Area of Ground operated on during Year.	Quantity of Gold obtained during Year or Period stated.			Value.		
								Oz.	dwt.	gr.	£	s.	d.
Evans's Flat*	Near Lawrence	Gravel and clay: old diggings	9 ft. to 16 ft.	70 c. yd.	..	..	About 9 acres	437	9	23	1,682	4	11
Tuapeka† ..	Near Lawrence	Gravel and clay: old diggings	12 ft. to 14 ft.	70 c. yd.	360,000	¾d.	7½ acres	329	12	13	1,268	18	11
Jutland Flat‡	Waipori ..	Quartz gravels: occasionally large blocks of schist	5 ft. to 22 ft.	74 c. yd.	413,362	1·55d.	19·9 acres	1,132	15	20	4,432	1	1
Enterprise ..	Near Alexandra	Medium-sized boulder wash	18 ft. to 30 ft.	40 c. yd	270,000	Nearly 2d.	About 5 acres	1,100	0	0	4,235	0	0
Manorburn ..	Manuherikia River	Gravel ..	7 ft. to 20 ft.	60 c. yd.	310,000	1¾d.	About 9 acres	645	4	10	2,532	9	4
Alpine§ ..	Near Cromwell	Gravel ..	About 35 ft.	About 40 tons	..	..	..	1,381	0	0	5,316	17	0
Unity ..	Near Clyde	Fine and coarse shingle	10 ft. to 35 ft.	100 c. yd.	350,000	1½d.	..	..			..		
Naseby‖ ..	Main Gully, Naseby	Loam and gravel	12 ft. ..	40 tons	116,000	..	6 acres	541	4	0	2,083	18	0
Carrick¶ ..	Nevis River	Schist gravel ..	2 ft. to 14 ft.	About 50 tons	..	..	10 acres	..			..		
Golden Terrace No. 1	Shotover River	Coarse gravel ..	14 ft. to 25 ft.	55 c. yd.	378,675	1·22d.	10 acres	880	0	0	3,410	0	0
The Little Waikaka	Waikaka ..	Quartz gravel ..	11 ft. ..	30 c. yd.	117,000	..	About 7 acres	..			..		

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* Ten months' work. † Nine months' work. ‡ Cost per cubic yard includes all stoppages, repairs, and expenses. § Eight months' work. ‖ About seven months' work. ¶ Owing to the frost being so severe, can only dredge eight or nine months in the year; gold obtained averages about 6 oz. weekly.

RETURNS FROM SOME DREDGES, AND DIVIDENDS PAID.

Name of Company.	Locality of Operations.	Capital actually paid up in Cash.	Value of Gold produced during Preceding Year.	Total Value of Gold produced since Registration.	Total Amount of Dividends declared.
		£	£	£	£
Clyde Dredging	Alexandra ..	3,850	3,928	15,465	7,300
Dunedin Gold-dredging ..	Roxburgh ..	7,540	2,334	61,488	14,835
Empire Gold-dredging ..	Waipori ..	2,970	2,830	2,830	960
Enterprise Gold-dredging ..	Alexandra ..	2,000	4,239	15,633	3,121
Ettrick Gold Steam-dredging	Moa Flat ..	1,937	2,221	16,013	2,700
Golden Beach Hydraulic Elevating and Dredging	Alexandra ..	4,500	5,397	5,468	2,275
Golden Gate Dredging ..	Island Block ..	2,500	2,885	10,988	3,000
Golden Run Dredging ..	Miller's Flat ..	7,798	2,772	20,794	5,194
Golden Treasure Dredging	Miller's Flat ..	1,384	3,297	19,416	7,693
Golden Terrace Dredging ..	Lower Shotover	3,750	5,177	5,177	500
Jutland Flat (Waipori) Gold-mining	Waipori ..	4,000	4,653	28,279	7,500
Manorburn Gold-dredging ..	Alexandra ..	3,000	2,532	6,262	75
New Sandhills Gold-dredging	Upper Shotover	812	1,369	3,327	125
Otago Gold-dredging ..	Miller's Flat ..	2,000	5,244	11,816	4,700
Success Gold-dredging ..	Waipori ..	2,400	3,014	3,224	240
Turakina Gold-dredging ..	Manuherikia ..	2,990	1,801	1,880	200
Upper Waipori Alluvial Gold-dredging	Waipori ..	5,950	2,933	35,107	4,800

As many of the best paying dredges are owned by private parties, their returns are not generally published, but it is known that they give handsome profits. Provision has been made in "The Mining Act, 1898," for half-yearly returns being sent to the Inspectors of Mines, so that a more accurate account of the yields will in future be possible. One of the five banks doing business in Otago purchased gold obtained by dredging for a period of twelve months, ending 31st March last, to the value of upwards of £100,000.

THE HEIR OF THE MOA.

[By MERVYN J. STEWART, Hon. Clerk to the Katikati Road Board.]

ONE of the undeveloped industries for which much of New Zealand is believed to be favourably conditioned is ostrich-farming, and a few notes as to the experience of a pioneer may be of value to many owners of light, patchy ground, especially in the North.

The Rev. W. Katterns, when incumbent of a parish in Kaipara nearly twenty years ago, suggested this industry to Messrs. Nathan, but the export duty made Cape birds too expensive, and the project was dropped for the time. A farm was started later in Canterbury, but, being on a heavy soil and perhaps with a rather cold climate, the birds did not thrive, and the flock was dispersed in the fifth season, numbering some eighteen, and with only two chicks as the last season's increase. I believe these were part of the nucleus of the Whitford Park flock, which now counts by hundreds.

Mr. Katterns, being moved later to Katikati, in the northern portion of Tauranga County, carried out his long-deferred plan by getting a pair of adult birds (three years and a half old), in May of 1897, from Whitford Park, Messrs. Nathan remembering his advice and being glad to give him a start in turn. The hen laid nineteen eggs the following winter, sitting on thirteen, all of which were hatched and reared, save one, which the owner fears was maliciously poisoned; none of the fatal diseases so prevalent on African farms being noted here. The feathers sold; and the price of four pairs of the chicks exported to Sydney more than paid for the year's feed, as well as the cost of the original pair. The eight exported are believed to be the first in New South Wales, as well as the first New Zealand birds sent over-seas. A larger number could have been readily sold. In the 1898 season the hen laid thirty eggs; but, owing to a disappointment with an incubator ordered, only nine were hatched (those left with the hen), which were, at six months' old, as high as a good-sized sheep, and larger than the first brood at the same age; these at eighteen months being larger than the parent birds. Mr. Katterns hopes to get the average size well up to the African maximum of 9 ft. by plentiful feeding in this moderate climate. Of course, the larger the bird the larger the feathers, and greater the value.

The flock is thus now fifteen in number. The yearling birds have the feathers cut in the second summer, and every eight months thereafter, just when the feathers arrive at full size and condition. The quills left are pulled out by hand after they become thoroughly dead and dry, when the new feathers start. That this gives no pain to the birds is shown by their fearless and even affectionate bearing; in this they are more like horses than any domesticated birds. The cock bird is rather quarrelsome in the breeding season—being locally named "Paul Krüger"—but otherwise they are perfectly gentle. When alarmed they straighten up in a regular kiwi attitude, in which the eyes are exactly the highest point, enabling them to see all round without moving the head. It is rather alarming to strangers, as these "small" ostriches are about 30 in. above a tall man's eye in this position! The chief trouble in New Zealand is from lice, which eat right across the filaments, reducing the value of the first-quality feathers ("terminals"—white wing-feathers) from £10 to £7 per pound; second quality from £5 to about £4; and proportionally in the other three classes, down to "body-feathers" worth a few shillings per pound. These last Mr. Katterns does not trouble about. Sulphur-dusting and good feeding are the only permanent cures for the pest. Birds free from lice would, at weight of feathers gathered, bring in from £3 10s. to £4 10s. a year; but a large improvement in size and quality of each cutting is noted, and is not yet checked. The London market is unlimited, both for choice and inferior feathers, the latter being much used for Highland bonnets and making up in bits by milliners.

The birds eat practically anything. They have a large paddock of grass, with a scattering of fern and manuka scrub. The fern, old and young, is consumed, and also manuka berries, which seem a delicacy to the ostriches. They get a little maize to keep them friendly, and turnips in winter, besides any garden or orchard waste produce. Green maize is very good for them, and a little oilcake before taking the feathers pays itself over again. Quantities of broken bones and pipi-shells are eaten, but not iron or gravel to any extent; the ordinary feed for stock the birds receive probably not requiring vigorous treatment. The cost per bird may be said to be that of two longwool sheep per year for grass and extra feed together. They are stopped by any fence they can see, even a single 4 ft. rail!

The land in use for the farm is ordinary—the dry loam over a pumice subsoil like much Auckland uplands; wet or heavy soil being very bad indeed for these birds. The climate is not so cold in winter as Waikato and Thames Valley, and the temperature is not likely to prove the coldest at which ostriches will thrive. How far south did the moa go?

While I do not think ostriches will displace agriculture in any place where the latter pays, nor yet sheep, where rich grasses make a permanent sole, I expect that vast areas of the northern gumlands, the central "pumice deserts," and much land now used for sheep, with poor results, will find the ostrich-farm their financial salvation. One acre of good land in a hundred will grow the turnips or maize for winter feed, and there are everywhere rich patches, while the long bare legs will take the birds from one bit of feed to another through the manuka scrub, where sheep and all but worthless horses and cattle would be lost.

It should be needless to argue that the ostrich can live in our country, where his family came to the highest perfection. Personally, I believe better conditions will raise the *Struthio* to be finer than ever were the *Dinornithidiæ*, the Katikati birds being 6 in. higher in each generation, and requiring only 3 ft. or so to "tie with the record." It is more important if these notes will lead to a consideration of the industry as to its remunerativeness, and, in so doing, to bear in mind that it is as payable on the worst waste land as on the best and dearest. From the colonial point of view the country on which it can best be carried out is the worst fitted for anything else.

Lydekker's "Royal Natural History" says of New Zealand in the moa period: "Such a marvellous exuberance of gigantic bird life was unknown elsewhere on the face of the globe in so small an area . . . the size of individuals, their abundance, and the variety of species being equally wonderful." Now that their cousin and heir-at-law is taking over his inheritance, with man as his ally and guardian, who can at present set a limit to the advantage to both?

SECTION III.

THE WAIKATO DISTRICT, AND THROUGH TO WANGANUI.

[Abridged from "The Tourist's Guide."]

APPROACHING Waikato by the train from Auckland, the first glimpse of the great river that gives its name to the district is obtained at Mercer. Mercer was a bustling place in the war days and for some years after. It is a pleasant place, and from its position must always remain a point of interest. The Waikato River is here seen at its best. Broad and clear, it sweeps between the old time-worn wharves and the thickly wooded island that fronts the settlement, and up-stream or down embraces within a few miles some bewitching scenery. Occasionally during the holiday times the steamer-owners run excursions down the river to the Heads, and the trip is a delightful one. Arrangements for visiting the Heads, where there are several cottages at the disposal of holiday-makers, can be made, and, were the beauties of this locality and its adaptability for bathing, fishing, and all kinds of ruralism better known, there can be little doubt that regular communication would soon become a necessity. A mile or so southward of the township the Whangamarino Creek empties its sluggish waters into the river, and not far away up the stream are the remains of the old Meremere Pa, which, with a garrison of half a dozen old men and women, barred the way to General Cameron, while the tribes were busy piling up the earthworks at fatal Rangiriri.

RANGIRIRI.

There is little to be seen at Rangiriri itself nowadays. The remains of the old military redoubt on the site of the famous pa are still visible; and here, too, is the plot of ground in which the victims of the assault are buried. A handsome obelisk has been erected in the graveyard to the memory of the gallant fellows who fell in that memorable attack in November, 1863. But Rangiriri is now a rendezvous for sportsmen, and in the duck season the commodious and comfortable hotel is always filled with guests. Near by are the big lakes Waikare and Whangape, and during the season boats and horses are available for those bent on visiting them. Rangiriri is the seat of extensive pumice-works, where a number of men are engaged in preparing the raw material for insulating purposes. The capture of Rangiriri has been thus described:—

Battle of Rangiriri.

On the 20th November, 1863, General Cameron moved from Meremere with a force of 770 men up the right bank of the Waikato River, with the intention of attacking the enemy's entrenched position at Rangiriri, in which operation Commodore Sir William Wiseman had arranged to co-operate with the ss. "Pioneer" and "Avon" and the four gunboats. The troops, steamers, and gunboats arrived together near Rangiriri at 3 p.m. The enemy's position consisted of a main line of entrenchment across the narrow isthmus which divides the Waikato River from Lake Waikare. This line had a double ditch and high parapet, and was strengthened at the centre by a square redoubt of very formidable construction. Behind the left centre of the main line and at right angles to it there was an entrenched line of rifle-pits, parallel to the Waikato River, and obstructing the advance of the troops from that direction. On a reconnaisance made previously, General Cameron determined on landing a force in the rear of the position, simultaneously with attacking it in front, with the view of turning and gaining possession of a ridge 500 yards from the main entrenchment, and thus intercepting the retreat of the enemy. With this object 300 men of the 40th Regiment were embarked in the "Pioneer" and "Avon," to land, on a preconcerted signal, at a point which had been selected. Unfortunately, the strength of the wind and current was such that the steamers were unable to reach this point, notwithstanding the persevering efforts of Sir William Wiseman and the officers and men under his command. The same cause prevented the gunboats from reaching the point. After shelling the position of the enemy for some considerable time from Captain Mercer's two 12-pounder Armstrongs and the naval 6-pounder under Lieutenant Alexander, R.N., in which the gunboats joined, and it being nearly 5 o'clock p.m., General Cameron determined not to wait any longer for the landing of the troops from the steamers, and gave the word for the assault. This was brilliantly executed by the troops, who had to pass over a distance of 600 yards in the face of a heavy fire, the 65th Regiment leading, and escalading the enemy's retrenchment on the left.

After passing the main line of entrenchment the troops wheeled to the left towards the enemy's centre, and came under fire of the line of rifle-pits facing the Waikato River. This they at once stormed and carried, driving the enemy before them to the centre redoubt, which they now defended with desperate resolution. While the troops were forcing their way over the parapet of the main line, the 40th landed sufficiently near a point indicated by the General to enable them to carry and occupy the ridge in the rear, and to pour a heavy fire on a body of the enemy, who were driven by them from that part of the position and fled by the Waikare Swamp. The troops who carried the main line being still checked by the fire from the centre redoubt, two separate assaults were made on this work, the first by thirty-six of the Royal Artillery, armed with revolvers, and led by Captain Mercer; the second by ninety seamen of the Royal Navy, armed in a similar manner, and led by Commander Mayne, under the personal direction of Sir William Wiseman. Both attacks were unsuccessful, on account of the formidable nature of the work, and the overwhelming fire which was brought to bear on the assailants. An attempt was also made by a party of seamen under Commander Phillimore to dislodge the enemy with hand-grenades thrown into the work. The darkness coming on, General Cameron resolved to wait for the return of daylight before undertaking further operations, the troops remaining in the several positions they had gained, in which they almost completely enveloped the enemy. Shortly after daylight on the 21st the white flag was hoisted by the enemy, of whom 183 surrendered unconditionally, gave up their arms, and became prisoners of war. Both sides lost heavily in the engagement.

HUNTLY.

Situated 65 miles south of Auckland, Huntly is now the principal coal-mining centre in the North Island. From here both rail and road follow the windings of the river through a picturesque wooded gorge for three miles or thereabouts to the quiet little village of Taupiri.

TAUPIRI,

built on the tongue of land formed by the confluence of the Mangawhara with the Waikato, is dominated by the forest-clad conical mountain from which it takes its name. Across the river is a small Native settlement, the residence of the Rev. Heta Tarawhiti, and close by are the remains of the church and mission buildings erected by a missionary—the Rev. B. Y. Ashwell—in the early years of the colony. Formerly there were splendid groves of peach-trees at this place, but these have long since vanished, and their places are now occupied by thick acacia scrub. Some fine pears are still grown near the settlement, but the art of cultivation went, as it came, with the missionaries. Taupiri for the present is a place of some note, being the burial-place of the late Maori king, Tawhiao, but whether it will be the ultimate resting-place of his bones remains to be seen. From Taupiri the railway runs in an almost direct line for miles to Ngaruawahia, but the road, as before, follows the graceful sinuosities of the river, here broad and sweeping, willow-arched on either side. From Woodlands to Newstead runs a drain known as the "Telephone" drain, 9 miles in length, alongside of which is a telephone-line. One can ride all the way right through the heart of the swamp. This property consists of 88,000 acres of land, nearly all of which was originally swamp. Now many thousands of acres are reclaimed and laid down in grass, carrying thirty-seven thousand sheep, as well as some three thousand cattle and numerous horses. There are several stations on the property. Woodlands is the main station, and is a regular little village, containing a sawmill, smithy, &c., with, of course, a schoolhouse close at hand. Another out-station, Mount Pleasant, on the Mangawhara Creek, is aptly named, and is a great place for fruit as well for sheep and cattle.

NGARUAWAHIA.

The approach to Ngaruawahia, the old capital of the Maori monarch, Potatau I., is made *viâ* the fine road and railway cylinder bridge which here spans the Waikato just above the point of its confluence with the Waipa. Ngaruawahia is not only one of the most charming places in the Waikato, but one of the prettiest to be found anywhere. No visitor can fail to appreciate the beauty of its position, washed by two rivers, and sheltered by the hills. Not a little of its charm is due to the colonist, who, seconding the efforts of Nature, has planted the streets and squares with bourgeoning trees, and tinted the delta with green, in contrast to the sombre foliage of the bush-clad hills. The Waipa River, sluggish in comparison with the full volumed Waikato, is here, and for miles upward towards the blue outline of Pirongia, a stream made for the oarsman. Calm and still, overhung with willows, it bears about it an air of romance, and fits well as the framework for the oldest of all romances which we yet see renewed about us every day.

Te Awamutu.

This town, which occupies the site of an old Church of England mission station, lies mainly in the basin formed by the confluence of the Mangahoe with the Mangapiko, and may be said to be the chief business centre of the Upper Waipa. Te Awamutu is surrounded by some of the best land in the Waikato, and has always been considered to be strongly reminiscent of the Old Country. Meadows, willows, and thorn hedgerows make up a thoroughly English landscape, and the illusion is heightened by the time-worn appearance of the old mission church and the antique style of most of the older buildings of the settlement.

Time, which works so many wonders, has somewhat changed the appearance of Te Awamutu. The hawthorn is not so conspicuous, the country lanes, picturesque though unserviceable, have been replaced by roads made for traffic, and the early English style of architecture has given place to the smart colonial pattern. The old church, renovated, and with its God's acre beautified, still stands; and even the chimneys of the old mission station still smoke, though the fires have long since been tended by secular hands.

During the closing days of the war Te Awamutu was General Cameron's headquarters, and it was in a skirmish with the Natives who turned at bay at Rangiaohia that Colonel Nixon and several other intrepid members of the Colonial Defence Force lost their lives. To the memory of those who were killed in this affair and at Hiarini and Orakau, the final conflict, the Government have erected a plain but striking obelisk in the churchyard, most of the original headboards erected over the graves having fallen into decay. These memorials have been gathered together and stacked inside the church, where is also a tablet setting forth the names of all who died in the service of their country in this campaign. From this record the names of the brave Maori allies who fell have not been omitted.

Orakau.

Orakau, the name now given to the district between Kihikihi and Parawera, owes its designation to the fact that it encompassed the sites of the pa renowned in the story of the war as the place where Rewi, the great fighting chief of the rebels, made his last stand. The position of the fortification is indicated by a dilapidated blockhouse, built for the conveniences of outpost duty. The story of the fight is familiar enough, and so long as heroic deeds are deemed worthy of remembrance the resistance of the Maoris at Orakau is not likely to be forgotten. Just beyond is the historic river Puniu, which formed for many years the *aukati* line, beyond which the Queen's writ did not run.

Battle of Orakau.

It having been reported by Lieut.-Colonel Haultain, commanding at Kihikihi Redoubt, that Natives were seen in force at the Village of Orakau, about three miles distant from his post, Brigadier-General Carey immediately rode over and made a reconnaissance. He found that the Maoris were engaged in building a pa; but, as it was too late in the day to attack at once, he made arrangements to march on the enemy's position during the night. At midnight Major Blythe, of the 40th Regiment, marched with 250 men, with directions to take the road to the right, to cross and recross the Puniu River, and to gain the rear of the enemy's position before daylight, halting there until the attack was commenced from the front, and then to dispose of his force so as to cut off the retreat of the enemy. Captain Blewitt, commanding at Rangiwahia, was also instructed to march during the night, and endeavour to form a junction with the main forces before daylight, on the proper right of the enemy's position. At 3 o'clock on the morning of Thursday, the 31st March, 1864, Brigadier-General Carey, in command of the main body, marched along the dray-road to Kihikihi, taking on Lieut.-Colonel Haultain and 150 men from that post, and proceeding by the same road to the Village of Orakau, which was reached without opposition as the day dawned. The enemy, evidently taken by surprise, opened fire on the advanced guard (composed of 120 of the Royal Irish and twenty of the Forest Rangers, gallantly led by Captain Ring, 18th Royal Irish, and supported by 100 of the 40th Regiment), who immediately rushed forward to the attack in skirmishing order. The position being found very strong, this party was forced to retire; but it at once reformed, and, being reinforced by another company of the 40th Regiment, again essayed to take the pa by assault, but with no better success. Captain Ring, 18th Royal Irish, fell mortally wounded, and Captain Fisher, 40th Regiment, severely so, besides four men killed and several wounded. On Captain Ring's falling, Captain Baker, 18th Royal Irish, D.A.A.-General, gallantly galloped to the front, dismounted, and, calling for volunteers, again endeavoured to carry the place by storm; but his attempt also failed.

Finding there was no chance of taking the pa in this manner, from its immense strength, General Carey determined to change his tactics, and immediately proceeded to surround the place and adopt the more slow but certain method of approaching the position by sap. These operations proceeded under the direction of Lieutenant Hurst, 12th Regiment, attached to the Royal Engineers' Department. During the afternoon a reinforcement of some 150 or 200 of the enemy from the direction of Mangatautari appeared in sight, evidently determined on relieving the place. They advanced to a bush situated about 900 yards in the rear of the outposts; but, seeing it was impossible to break through the line formed by the troops, they halted and commenced firing volleys, at the same time inciting their comrades in the pa to increased energy by dancing war-dances, shouting, &c. The sap was pushed vigorously forward, and the troops so posted as to prevent any possibility of escape by the Natives during the night. Heavy firing was kept up by the enemy on the troops, both in the sap and around the place, during the day and night, causing but few casualties, the men contriving to cover themselves in temporary rifle-pits dug out with their bayonets and hands.

A reinforcement of 200 men, under the command of Captain Inman, 18th Royal Irish, arrived from headquarters during the afternoon, while a further reinforcement under Captain Greaves arrived about daylight next morning. This enabled the sappers to be relieved more constantly, and therefore the work was carried on more quickly. During the night a few of the enemy were perceived trying to effect an escape from the pa, but being immediately fired upon, they returned to the earthwork. Captain Betty, Royal Artillery, threw some well-directed shells at the Maori reinforcement on the hills, which disconcerted them considerably.

At an early hour on the morning of the 2nd April hand-grenades were thrown into the enemy's position with great effect, and about noon a 6-pounder Armstrong gun was carried into the sap. An entrance having been made, it opened fire on the enemy's work, destroying the pallisading, making a considerable breach, and silencing in a great measure the fire of the enemy on the men engaged at the head of the sap. As it was known that women and children were in the pa, the enemy were called upon to surrender previous to the concentrated fire of the Armstrong gun and hand-grenades on their work. They were told that their lives would be spared, and they were requested to at least have compassion on their women and children and send them out if they declined to surrender. The reply was that they would not do so, but would fight to the last. The pa was then carried. The enemy, effecting their escape from the opposite side of the work, dashed through a space from which the troops had been thrown back under cover to enable the gun to open. They were, however, speedily followed up, and suffered severe loss during a pursuit of nearly six miles. The troops were recalled about sundown, and bivouacked round the enemy's late position. The loss amounted to sixteen killed and fifty-two wounded, while the Maoris had 101 killed and thirty-three wounded or taken prisoners.

Rewi Maniapoto was the leader in this defence. His reply to General Carey's call to surrender, "*Ka whawhai tonu, ake, ake, ake*" ("We will fight for ever and ever and ever") has become historical. Rewi escaped through the lines of the 40th, and died in his bed a few years ago in a house built for him by the Government at Kihikihi.

OTOROHANGA-HANGATIKI.

Otorohanga is 14 miles from Te Awamutu. It is situated on the bank of the Waipa, which is here a clear shallow stream, shingly, and fordable in most places, and it is said to abound in trout. The valley of the Waipa is one of the best and largest of its kind in the country. It extends from Ngaruawahia to some 5 miles above Otorohanga, where the river emerges from the forest-clad broken country. The land is of good quality, and when the part of the valley above Pirongia is cultivated like that lower down it will be very productive, and a pleasing picture of farm-land scenery. The Waipa is navigable for canoes and small boats up to Otorohanga. The banks are low, and in many places shaded with graceful weeping-willows and other trees.

Otorohanga is the largest of the business places in the King-country. From it tracks available for horse traffic and *konekes* (Maori sledges), and to a limited extent for wheeled vehicles, radiate to Kihikihi, up the valley to the hill country, to Te Kuiti, Waitomo, Kawhia, Kopu, and Pirongia.

There is a post- and telephone-office, with a mail twice a week, one temperance hotel, several general stores, and a sawmill; also, and very important, a school, which is well attended by troops of happy, healthy children of all gradations, from the pure Maori of Aotearoa to the white-skinned descendants of Saxon forefathers.

Otorohanga is the only place within the King-country at which the Native Land Court has sat. That Court has been investigating titles to the land for the last ten or twelve years, and has done an immense quantity of work. Otorohanga is also the headquarters of the Government Land Purchase Officer for this district. The population is estimated at about four hundred. The Maoris have to a very great extent adopted the European manner of living in cottages, and no longer live in closely-packed whares in pas, as in former days.

The Waipa River is crossed immediately after leaving Otorohanga, and the valley of the Mangapu—its largest tributary—is entered and followed. This is a pretty valley, much smaller in every respect than those of the Waipa and Puniu. It contains several patches of native bush, many grassy meadows, clumps of fruit-trees here and there, and in many places the weeping willow grows on the river-banks. The Mangapu River is about 25 yards wide, deep, and slow running, with muddy banks. It is navigable for canoes and boats, but in the upper parts this is much hampered by logs and snags. At Hangatiki (6 miles from Otorohanga and 20 miles from Te Awamutu) is another station.

This place in years gone by was a populous Maori settlement, but now the inhabitants do not exceed a score or so.

From Hangatiki a road 5 miles in length leads to the Waitomo Caves, a limestone formation, the only "sight" at present known of in this district. As there is no accommodation for travellers at Hangatiki or at the caves, except that offered by a few resident Maoris, it is usual for those intending to visit them to form a party.

Passing on from Hangatiki, the railway runs up the Mangaokewa Valley. At 23½ miles from Te Awamutu is Te Kumi Station, where there is nothing particular to describe. A bridle-track—sometimes, and with difficulty, used for wagons—leaves this point, going to Mokau and Awakino.

TE KUITI–MOKAU.

At 26 miles is Te Kuiti Station and village, the next in importance to Otorohanga. Here there is a post-office and telegraph. There are several general stores. There is also a carved Maori-house about 70 ft. long, 30 ft. wide, and 18 ft. high. It is worth a visit, and is situated only about 200 yards from the station.

The land in the valley, and on the hills too, is of good quality. The hills here are higher and steeper than those before mentioned, but are not too steep for grazing purposes, and in many parts for crops. Limestone crops out here and there on their flanks, and many of the tops are covered with forest, with intervening grass-grown openings. The population of Te Kuiti is estimated at about two hundred. Riding-tracks lead to various Maori cultivations.

As far as Te Kuiti the railway is all through gently undulating open country of fair quality of soil. There is no striking scenery the whole way—no mountains, gorges, or gigantic cliffs to relieve the mild undulations of the fern-clad landscape; consequently no steep grades, tunnels, or ravine-crossing viaducts.

Leaving Te Kuiti, however, and going towards Te Poro-o-Tarao, there is a marked change in the configuration. The hills are steeper and higher, there are both limestone and basalt cliffs, deep gullies, and ravines, requiring engineering skill and heavy works to construct the line. Two miles from Te Kuiti there is an iron viaduct spanning the Waiteti Gully, 120 ft. high, and 424 ft. long. The line ascends from Te Kuiti a continuous grade of 1 in 70 for 7 miles, when the divide between the waters of the Waipa and of Mokau is crossed. A slight descent is then made to Mokau Station, 34½ miles from Te Awamutu. This station is on the bank of the Mokau River, here a stream some 5 or 6 yards wide and uninteresting. The surrounding country is not good. At this place there is no settlement.

From Mokau the line ascends again, climbing the rugged flank of the valley to Paritikona Station, a place at present quite uninhabited. It is 39 miles from Te Awamutu, and in the small valley of the stream from which the station takes its name.

Passing on, the railway leads up the rock-bound gully of the stream, and, passing over a low saddle in the hills, descends a little to the Mangapehi Valley, which here is swampy and not much good. At 42½ miles Mangapehi Station is reached, another at present uninhabited spot, shut in by high wooded-topped hills.

TE PORO-O-TARAO.

Passing this place, the line again ascends. Winding its way among the hills forming the west side of the Mangapehi Valley, it enters the forest, and a mile further on Te Poro-o-Tarao is reached. The tunnel at this place pierces the summit of the ridge which divides the waters of the Wanganui River from those of the Mokau River; its length is 53 chains, it is about 1,100 ft. above sea-level, and is 350 ft. below the summit of the ridge. At this place is at present the headquarters of the engineering staff now engaged in constructing the railway extension beyond the tunnel. There is an accommodation-house, a general store, and a post-office, with a mail once a week. The country is forest-covered, the land fairly good, on which grass and root-crops grow very well. Nearly the whole population consists of those connected with the railway-works, who shift from place to place as the work proceeds, and number somewhere about a hundred.

From the top of the ridge on a fine day an extensive view is obtained to the southward down the Ongaruhe Valley. Across the Waimiha Plain, and beyond the basalt-capped hills of Maramataha, away in the hazy distance, are seen the mountain ranges from which rise the snow-clad giants of Ruapehu and Ngauruhoe.

TO TAUMARANUI.

Leaving the comparatively easy and luxurious railway, the traveller can now proceed by vehicle, or horse, to either Taumaranui or the Ohura. The distance to Taumaranui is 30 miles. There is a well-made road all the way, excepting that the larger bridges have not been built, and therefore there are several rivers to ford. None of them, however, are dangerous or very deep. Passing on from the tunnel, the road leads down the gully of the Ohinemoa Stream, and at 2 miles enters open fern and scrub land of a poor quality.

At about 5 miles the Ongaruhe River is forded for the first time. Here it is a shallow pebbly stream some 40 yards wide, with low banks. Rising from the stream about 100 ft. the Waimiha Plain is crossed, the land of which is but poor, being principally composed of pumice. Descending again, the Maramataha is crossed, a very serpentine and shallow silvery stream, with shingly bed and banks, and flanked with pumice terraces. Following the bed of this stream for about a quarter of a mile, the Ongaruhe is again crossed close to their junction, at about 7½ miles from the tunnel.

On to Tekawakawa, at 15 miles, the road is in the valley of the Ongaruhe, which is about half a mile wide, the hills on either side being very steep, and from 200 ft. to 500 ft. high. At Tekawakawa the only thing to note is a solitary pioneer store, which also serves as a post-office. There is no accommodation-house or other hostelry at Tekawakawa. Proceeding again towards Taumaranui, a fine rapid or cataract on the Ongaruhe is passed, from the foot of which canoes can be taken the whole way to the town of Wanganui, on the west coast.

A little farther on, and about 17 miles from the tunnel, is the "point of divergence" in the rival railway routes for the Main Trunk Railway-line—one going to the right, and joining the present railway near Stratford; the other going more to the eastward, and meeting the railway at Mangaonoho, near Hunterville. (*See description in next article.*) In the meantime a road is to be made from this point towards Stratford.

The next place on the way to Taumaranui is the Maori village of Te Koura, at 19 miles, situated on the banks of the Ongaruhe. Two miles beyond Te Koura the Ongaruhe is forded for the last time.

TAUMARANUI TO WANGANUI.

At 27 miles the Taringamutu Stream is forded. At this stream the road leaves the banks of the Ongaruhe and crosses a pumice plateau sparsely covered with scrub and mosses in endless variety, rushes, and stunted fern, and at 30 miles reaches Taumaranui, the principal Maori settlement on the Upper Wanganui River, and situated on its bank. Here there is a small store, where the necessaries of life can usually be obtained at very reasonable prices. At Taumaranui there is no accommodation-house or other convenience for travellers, who have either to accept the hospitality sure to be offered, or camp.

The valley of the Wanganui, which here joins that of Ongaruhe, is about a mile wide, of good open land, with high, steep, wooded hills on either side. The Wanganui Valley continues at about the same breadth up the river for some 6 or 7 miles, but down the river it contracts to a narrow and broken river-course, shut in by high hills, and there is little naturally open land for many miles. Canoes are taken up and down the river to and from Taumaranui. It is, however, impossible to give the charges, as they depend on the caprice of the canoe-men, who probably estimate how much is likely to be obtained from the proposed passengers, and how the latter are circumstanced.

The trip down the river to Pipiriki, to which place the steamboats now run regularly, occupies about two days, but depends greatly on the quantity of water at the time. There is grand scenery on the way, and considerable excitement in "shooting" the rapids.

UP THE WANGANUI RIVER—TOKAANU—RUAPEHU AND NGAURUHOE.

THE Town of Wanganui is situated on the right bank of the river of the same name, at a distance of four miles from the sea. It was founded in 1840 by the New Zealand Company, and now contains a population of over six thousand persons. With the suburbs—Sedgebrook, Durietown, Putiki, Castlecliff, Mosstown, St. John's Hill, Aramoho, and Eastown—the population is over eight thousand. The town is accessible for sea-going steamers drawing up to 13 ft. of water.

The trains connect with New Plymouth and Wellington at Aramoho, Wanganui itself being on a branch line. There is also a private line to Castlecliff.

WANGANUI TO PIPIRIKI.

This trip is made by steamer, there being three on the river. The "Wairere" is 100 ft. long, carrying 250 passengers. The "Manuwai" is 116 ft. long, carrying 400 passengers. The "Ohura" is 77 ft. long, and carries 150 passengers. Good, well-served meals, at 2s. each, may be obtained on all the steamers. The steamer "Ohura" meets the lower-river steamers at Pipiriki, and on the morning following their arrival there she runs up to Utapu and back by noon (fare 15s. return), so as to allow the passengers to be carried on by steamer or coach to their destinations after having had a short glimpse of the beauties of the upper river. The fares are: Wanganui–Pipiriki, or *vice versâ*, 15s. single, £1 5s. return; Wanganui–Tangarakau, or *vice versâ*, £1 5s. single, £2 return.

An important native settlement, Parikino, is reached at 23 miles. Here a stop of a few minutes is usually made, in order to discharge supplies, &c. From Parikino upwards the bush is mostly down to the water's edge, except where cleared away round Native settlements. Immediately below and at several places just above Parikino may be seen stone walls or groins constructed in the river, for the purpose of improving it. From here, when the river is at summer level, the steamers usually have to resort to hauling themselves up the rapids by means of wire ropes laid for the purpose in the rapids. The ropes are passed round powerful winches on board the steamers, the ends being dropped over astern as the steamer works her way up. For ease in picking up, the ends of the ropes are supported by buoys. A thorough knowledge of the channels, combined with great skill and patience on the part of the crew, are necessary in order to pilot the steamers through these rapids, though there is no actual danger in the accomplishment of this.

At Atene (Athens), 30½ miles, a picturesque kainga is passed. A very sharp bend in the river is here caused by the river at some long remote period having cut through a narrow ridge, thus shortening its course by over a mile.

Koriniti (Corinth), at 39 miles, is also prettily situated.

Karatia, 43 miles, is just above the bad rapid, Matahiwi. Here the fall is 6 ft. in a quarter of a mile.

Ranana (London), 46 miles, was formerly an important place, but is now becoming very quiet. About half a mile above it is the island of Moutoa, on which, on the 14th May, 1864, was fought a pitched battle between the friendly Wanganui Natives and the Hauhaus. This fight probably saved the Town of Wanganui. Dr. Featherston's account of the fight, as extracted from his official report, is as follows:—

> Matene [the leader of the Hauhau party], and his followers, immediately on their arrival on the Wanganui River, entered into negotiations with the friendly Natives for permission to pass down the river to attack the town of Wanganui; but, not only were all their overtures indignantly rejected, but they were told that their passage would be prevented, no matter at what sacrifice of life. Matene then said he would wait two months, if at the expiration of that time the loyal Natives would give way. The latter, at length, sick and wearied of these negotiations, on Friday, the 13th May, 1864, sent a special messenger to Matene and his fanatics proposing that they should do battle on the following day at a certain hour on the Island of Moutoa. The challenge was at once accepted, it being stipulated that neither party should attempt to surprise the other, or in any way violate the conditions of the duel. The time fixed was the break of day. On the day of the battle there was so little water in the river that the friendly Natives on the left bank had not to wade probably more than thirty yards through water not more than 1 ft. to 1 ft. 6 in. deep to get to the island. The rebels, located at Tawhitinui, nearly opposite the north-eastern extremity of the island, could only reach the island by canoes, the river between it and the right bank being both deep and rapid. The friendly Natives mustered some 300 strong, and the rebels did not number more than 120 to 140, of whom not a few were mere boys. Before daybreak a party of the loyals, headed by Hemi Napi, were on the island, and posted themselves at the extremity at which their foes were to land. They were shortly followed by the remainder of their force under Mete Kingi. The advance party was formed of three companies. The reserve companies were some distance in the rear. Matene and his fanatics landed out of seven canoes on the shingle spit without opposition about 7 a.m. Their forces were arranged in a similar fashion to those of the loyal Natives. Immediately after they were formed they commenced their incantation, shouting "Hau, hau!" ("Up, up!") and using gestures not unlike the passes made by mesmerists. They laboured under the strange delusion that, while they themselves were invulnerable, their opponents would be forced by their incantations to approach close to them without power to offer any resistance. For two hours were these incantations kept up, the advanced companies being not more than 20 yards from each other. As soon as the first shot was fired by one of the rebels, the opposing forces slowly advanced until they were within 30 ft. of each other, when a volley was exchanged. Several fell on both sides, and amongst them the chief Kereti, whose loss dispirited the loyal natives, for they immediately commenced to retreat, slowly at first, but when after another volley or two their other two leaders, Hemi and Riwai, were killed, they fairly broke and fled. The reserve, instead of coming to their support, also fled, most of them recrossing the river. The battle seemed at this moment completely lost, and probably would not have been retrieved had it not been for the chief Haimona Hiroti, who, when he had reached the end of the island, shouted, "I will go no further!" and immediately rallied some twenty men just in time to pour a deadly volley into the rebels, who were close upon them. After this, it seems to have been a hand-to-hand fight; but the rebels, having lost several of their leaders, and Mete Kingi with the reserve having rejoined Haimona Hiroti, soon broke and fled, being hotly pursued till they reached the head of the island, when all who survived (with the exception of a few who escaped in a canoe) took to the river, and were

most of them shot down. Matene, though he was badly wounded while swimming, succeeded in gaining the bank, but was immediately tomahawked by a Native policeman, Te Moro, who lost no time in swimming after him. Nearly all the survivors were wounded. The friendly Natives had twelve killed and twenty-five to thirty wounded, while the rebels lost about fifty.

Hiruharama (Jerusalem), at 49 miles, is at present the most important native settlement on the upper river. It possesses a Roman Catholic church, convent, and orphanage. The considerable area of farm-lands attached to the establishment is worked almost entirely by the nuns or sisters. From here to Pipiriki, at 56 miles, the scenery is much finer than in the lower reaches, the channel being confined between high cliffs of limestone and papa rock, densely wooded to the water's edge.

Pipiriki is the terminus of the lower-river navigation. Here the coach-road turns off to Raetihi, Karioi, and the Lakes. There is at present (1899) only one accommodation-house; tariff, 2s. 6d. all round. There are fair paddocks for horses. Canoes or horses may be had by arrangement. A township was sold here in July, 1897.

PIPIRIKI TO TAUMARANUI.

This tour has hitherto only been possible by means of canoes. It is proposed in the future to clear the river for steamers to within about fifteen miles of Taumaranui, the balance of the distance being easy country, through which a good coach-road could easily be constructed to connect with the proposed Main Trunk Railway at Taumaranui. Beyond Tangarakau the steamer rates have not yet been fixed. The canoe charges are very uncertain, but may be put down at 10s. a day for the canoe, and 10s. a day for each man employed.

As the canoe is propelled up the rapids by poles, it is absolutely necessary that skilled labour be employed; the attempt to ascend or shoot the rapids when only novices are on board would most probably end in a serious accident. Voyagers on the river will notice along the steep papa banks of the river large numbers of holes made by the hardened points of the poles used by the Natives in poling their canoes up-stream. If canoeing for more than one day is decided upon, a supply of tents, blankets, waterproof cloth, cooking utensils, and food will have to be provided, sufficient for the whole party, including the crew. These are obtainable at Pipiriki. The canoes are usually about 40 ft. long, by 3 ft. beam, with side-boards, and are furnished with seats, oars, poles, and paddles. In ascending, the average speed is about two miles an hour, and in descending about four.

From Pipiriki to Ohura, and a few miles beyond, the scenery on the river is very fine indeed, much finer than any to be seen below Pipiriki, the part between Pipiriki and Tieke being probably the best on the river.

From Pipiriki, 56 miles, to Manganui-a-te-ao, 63 miles, there are a number of very swift rapids, the rise in this part being greater than on any other within the first 120 miles. The names of the worst rapids are Paparoa (immediately above Pipiriki), Te Aomaranea, Autapu, Mangaio, and Ngaporo. These rapids are now being improved, and shortly will present no greater difficulties or dangers than those below Pipiriki.

About 5 miles up on the proper right bank there are two caves, through one of which a large creek rushes, forming a waterfall at its junction with the river. At this point there is a splendid site for a suspension bridge at some future period.

The Manganui-a-te-ao is a large turbulent stream fed chiefly by the snows of the Ruapehu, but is only navigable by canoes for a few miles on account of the roughness of its bed and its great fall.

Tieke, reached at 70 miles, is pleasantly situated on some undulating and partly open country.

At 72 miles, another native kainga, Utapu, is passed. From here to Retaruke, at 108 miles, there is practically no settlement on the river.

At 80 miles the Wangamomona Stream, flowing from the western side, joins the river.

At 86 miles the Tangarakau River is reached. This is a long stream running in a deeply-cut gorge, abounding in fine scenery, rising nearly 100 miles to the north-west. The water is of a dark-brown colour, forming a striking contrast at the junction to the clear water of the main river. There are several coal-seams on the Tangarakau, but at present they are too inaccessible to be utilised. This river has been cleared for a distance of fourteen miles for canoe-traffic, to a point whither coach-traffic can be brought from Stratford *viâ* the East Road. Steamer traffic has not yet been taken past the Tangarakau, but no doubt in time it will be extended up, as previously stated.

At 98 miles there is an extremely bad rapid, called Tareipokiore, caused by a landslip.

Retaruke Stream, coming from the Waimarino country to the east, joins the river at 108 miles. This stream is navigable by canoes for about twenty miles.

At 111 miles the Ohura River, from the north-west, joins the main river, forming two waterfalls, one just at the junction, and the second about a quarter of a mile up. Above this waterfall the Ohura is navigable by canoes for a considerable distance, and traverses some fine grazing country as yet untouched.

About 120 miles the valley of the river begins to widen out, and the scenery becomes much less striking. From Jerusalem to this point, a distance of 70 miles, the river runs in a narrow, and often very deep channel, mostly between precipitous papa cliffs, every available foothold being covered with a more or less luxuriant growth of ferns, shrubs, or forest-trees. The numbers of waterfalls to be seen tumbling into the river on either side, especially after heavy rain, greatly enhance the beauty of the river scene.

At 136 miles Taumaranui is reached. Here the main river is joined by its most important tributary, the Ongaruhe, from the King-country. Down the valley of this river runs the Main Trunk

Railway. There is a large Native settlement here. The country is fairly open, but of poor quality, pumice being everywhere visible. There is a horse-track from Taumaranui to Raetihi.

Canoes can ascend the Wanganui for a few miles beyond Taumaranui, but the rapids are numerous and swift and the settlement very small; also, the scenery is of a character not requiring any decription. Rumours have been floating about here for years as to the existence of gold in certain of the creeks above Taumaranui, but as yet none has been discovered.

PIPIRIKI–WAIOURU ROAD.

Distance, 41½ miles. The journey is made by coach. From Pipiriki to Raetihi it is very desirable, if possible, to obtain a box-seat, in order to thoroughly appreciate the very picturesque scenery with which this part of the road abounds.

Leaving Pipiriki, a very long ascent is made for the first 7 miles up the valley of the Kaukore Stream. In two places the road is cut out of the solid papa precipices, forming what are now known as the "Dress Circles." The creeks here run in perfect cañons, excavated by the erosion of the water during countless ages. All this valley is most beautifully forest-clad. In January the hill-sides are especially attractive, on account of the scarlet rata, then in full bloom.

At 8½ miles from Pipiriki the Mangoihe Creek is crossed by a truss bridge. Just above this is a third "Dress Circle."

At 11 miles the Waipuna Saddle is reached. This is the watershed of the Wanganui and Wangaehu Rivers. Its height is 1,791 ft. About a quarter of a mile past the saddle a very fine and extensive view is obtained of the Waimarino Plain, covered with dense forest, and backed by the snowy peaks of Ruapehu and the active volcano Ngauruhoe. Two miles' descent brings the coach to the Mangaetoroa Stream, which rushes through a tunnel excavated beneath the road.

At 17½ miles Raetihi is reached. This township is five years old, and well situated for becoming an important place in years to come, though as yet it only contains a population of about one hundred people. The coaches change horses here, and the passengers have an hour for lunch. For many miles around here, in all directions, there is an extremely fine forest—rimu, or red-pine, being the most common tree. There is a large amount of settlement going on in this district, but the settlers have much to contend with in the expense they are put to in felling the heavy bush to improve their lands, and by the distance to markets.

From Raetihi, at 17½ miles, past Ohakune, at 24½ miles, to Waione, at 30½ miles, the grand forest country still continues, with occasional small Native and European clearings. There are a few fine glimpses of Ruapehu, notably so at Ohakune, a small township on the Mangawhero River, and not far from the line of the proposed Main Trunk Railway. There is an old natural clearing at Ohakune, but as a township it has not prospered. The Mangawhero and

Mangateitei Rivers are both crossed by good fords, but when the rivers are at all swollen it is preferable to make a detour at this part for about three miles, *viâ* what is known as the Rangataua Road.

At Waione, 30½ miles, the open country is come upon quite suddenly. From here practically to Rotorua there is no more bush to be traversed, and throughout all this distance the land is of very poor quality, and is only fit for pastoral purposes in large areas. Except for the fine views of the mountains and fine bracing air the coach drive from Waione to Waiouru is very monotonous.

At 32½ miles Karioi is reached. There being no facilities for the accommodation of travellers at Waiouru, the night is usually spent at Karioi, the passengers staying at the accommodation-house. Stabling and paddocking can also be obtained here. The view from Karioi of the glacier on the southern slope of Ruapehu is very fine.

On the following morning Waiouru is reached early. Four miles further on the Wangaehu River is crossed by a good ford. The waters of this river are strongly impregnated with sulphur, and at times quite unfit to drink. Waiouru is merely a coaching station at the junction of the Ohingaiti, Tokaanu, and Pipiriki Roads. It is situated upon a bleak tussocky plateau 2,600 ft. above the sea-level, the only habitation near it, besides a small accommodation-house, being a shepherd's hut, an outpost of the Karioi sheep-station, though there will in time probably be an important coaching station here.

WAIOURU–TOKAANU.

This coach road was opened for traffic in 1894. It is all through open country, and in better condition in wet than in dry weather, for it is of pumice formation, which cakes hard in wet weather and becomes very dusty in dry. Rapid travelling, comparatively speaking, is made on this trip, especially from Waiouru to the Desert. The splendid mountains Ruapehu and Tongariro dominate the view on the left, and the fine range of Kaimanawa closes the view on the right, so that although the trip is otherwise monotonous, with only occasional mountain torrents and a view of Lake Taupo, the fine bracing air and clear cold water serve to make the journey pleasant.

Waiouru is left immediately after the arrival of the coach from Karioi. A level tussocky plain for 2¼ miles brings the traveller to the edge of the deep gully formed by the Waitangi Creek. On ascending from that another plain 3 miles long is traversed. The Paripokai Terrace is then climbed. From here the Wangaehu River can be seen wending its way for miles across the plains from its source in Ruapehu, till it enters the bush near Karioi. On top of this terrace the road runs perfectly straight along a plain covered with tussocks and snow grass for 4½ miles. The elevation of Waiouru above sea-level is 2,570 ft. This upper plain is from 3,100 ft. to 3,300 ft.

Mamoenui Creek is crossed by a ford at 12 miles. This is a tributary of the Moawhango River. Just beyond this lies the Onetapu Desert, a region of loose sand and gravel brought down from the slopes of Ruapehu, and sparsely covered with stunted vegetation. It is to be noted that three small streams are here running almost parallel, within half a mile of one another. One goes to join the Wangaehu, another to join the Rangitikei, and the third to join the Waikato.

The head-water of the Waikato is crossed at 14½ miles. Just below the bridge the stream dives into a deep cañon, in which it runs for miles.

At 15¼ miles the summit of the road is reached, the height being 3,410 ft. Here the first view is obtained to the north of Taupo Lake, over 2,200 ft. lower in elevation, and nearly 30 miles distant. From here there is a general fall all the way, but there are numerous ups and downs on the road, many of them being long and steep, though no steeper grades than 1 in 15 are met with.

The Kaimanawa Range, with bare tops and over 5,000 ft. high, with the lower slopes thickly covered with birch (beech) bush is seen to the right, and on the left are the Ruapehu and Tongariro Mountains.

The Mangatoetoenui Stream is crossed by a ford at 18 miles. There is at 19¾ miles a picturesque bridge situated in a wooded gully just below the confluence of the Ohinepango and Waihohonu Streams.

A birch bush, about a mile nearer the mountains, affords good camping places from which to make excursions to Ruapehu. This mountain is 9,008 ft. high, with perpetual glaciers on the summit and southern sides and snow on the other sides, except from January to March, when they are all bare except in shaded places. For the ascent a clear calm day should be selected, as on the summit the cold is very severe if there is any wind. A guide is advisable for strangers, but not absolutely necessary if members of the party are accustomed to mountaineering work, and if good directions are obtained before starting. The mountain was probably first ascended by Europeans in 1877, but since then it has frequently been climbed. In 1881 Mrs. W. Birch reached the summit and crossed the ice-field. The ascent may be made from Waihohonu to the north peak, Te Heuheu. This is the easiest climb. If horses are available they can be ridden from Waihohonu for two hours up the long stony lower slopes of the mountain, and then tethered to rocks in a sheltered gully. A long spur on the north-eastern slope of the mountain is then climbed, and after three hours' labour the summit should be reached. The ascent is not at all dangerous, but somewhat laborious on account of the loose surface stones, gravel, &c., being all on the move, though in the descent this can be taken advantage of to immensely quicken the pace. On the summit the views are very extensive and grand, nearly one-third of the North Island being spread out to view like a map, but the large extent of the top renders a simultaneous view of the whole impossible. The southern peak, Para-te-tai-tonga, may be ascended from the Karioi side, but near the summit the ascent is very steep and rather dangerous. In order to obtain an early start for this route, the camp should be pitched on the previous evening at the "Round Bush," about 10 miles from Karioi.

Another route is by way of the Wangaehu River. By making a very early start from Waiouru, crossing part of the desert, and leaving the horses above the Black Rock, which divides the Wangaehu and Waikato Rivers, the ascent may be made to the summit, striking the plateau at its lowest point. But the climb this way is also much steeper and more dangerous than by the north-eastern spur. On the western and southern slopes there is bush to an altitude of 5,000 ft., but the other slopes are formed of long bare rounded stony spurs, gradually increasing in steepness towards the summit. On the summit there is a large ice-field, near the margin of which is the crater-lake. This lake is about 80 ft. below the general level of the ice-field, with steep walls, and is about 10 acres in extent. The temperature varies from tepid to boiling. Some mountaineers have reported it (1885) with no appearance of heat, while others state (1890) that it was in a state of intense activity. Specimens of water from the lake have been obtained and analysed. In March, 1897, the descent to a beach on the edge of the crater-lake was accomplished at one place with tolerable ease, but at all other places the sides were very precipitous. The water was then cool at the edges, but nearly boiling in the centre. Though the mountain was covered in ice and snow the temperature at the lake side was quite mild. The water from this lake flows by underground channels into the Wangaehu River, and in 1859, probably from a heating of the mountain, the lake-water was suddenly thrown over the adjoining ice-fields, causing an enormous mass of water, ice, and *débris* to tear down the mountain-side, sweeping down the Wangaehu, and destroying the traffic-bridge near the sea-coast.

At the 22-mile peg the half-way station is reached. Here a halt is made for an hour or so for lunch and horse-feed. Lunches have to be brought in the coach, as there is no one resident here, though probably in time this will form the starting point for the mountain tours. The coaches from Waiouru and Tokaanu meet here, and passengers change coaches.

A long descent into and out of Oturere Creek is made at 24¾ miles. About this point of the journey the creeks are nicely wooded, and occasional clumps of birch bush give the country quite a park-like appearance. Some deer were liberated here in the autumn of 1897.

From Oturere, where good camping-places are obtainable, the excursions to Ngauruhoe and Tongariro can be conveniently made. As before stated, Waihohonu is a good starting-point for excursions to Ruapehu, but Oturere is about four miles nearer to the mountains. An early start should be made up the long spur to the north of Oturere Creek. Horses may be taken for about 4 miles, and thus save a lot of exertion to the travellers. The horses being securely tethered in some sheltered gully, the course should be directed over the bleak waste of lava and ash to the saddle between Ngauruhoe and Tongariro. A lava ridge should be selected for the final ascent of the cone, for climbing up the cindery face is most fatiguing work. The ascent can be made on foot, and the camp again reached in ten hours, by moderate walking. The height of the cone is 7,515 ft. The crater is about a quarter of a mile in diameter, and the western wall is much lower than the rest of it. Great volumes of steam and sulphur-fumes are constantly issuing from this crater. Care should be exercised to keep on the windward side of the fumes. There was an eruption in 1868–69, and considerable extra activity in 1881 and 1892.

There is evidently intimate connection between Ngauruhoe, Ketetahi, and Te Mari, other volcanic vents in the Tongariro Range some miles to the north, for increased activity in one sometimes means increased activity in all, and sometimes almost a total extinction of all except the specially active one. On a clear day the view from the summit of Ngauruhoe is very fine, especially to the westward, over the Waimarino Plains and undulating bush-clad country right to the slopes of Mount Egmont, 8,280 ft. On the elevated plateau between Ruapehu and Ngauruhoe are two crater-lakes, known as Nga-Puna-o-Tama. From these lakes Native tradition says that Taranaki—*i.e.*, Mount Egmont—was expelled by Tongariro on account of his having paid undue attention to Pihanga (a cone 4,000 ft. overlooking Tokaanu), wife of Tongariro. There is also a Native legend as to how Ngauruhoe first became active. Shortly after the Maoris first came to New Zealand from Hawaiki a great chief, Ngatoro-i-rangi, climbed this peak, and, requiring fire to perform certain rites, he called to his wife at Whakaari (White Island, in the Bay of Plenty) to bring him some of the sacred fire carried thither from Hawaiki. As this fire must not be seen by ordinary mortals, it was brought underground all the way. Here and there, however, as at Rotorua, Tarawera, Orakeikorako, Taupo, and other places, some of it was spilled, and sprouting up formed the thermal springs, &c., at these places. But the main portion of the fire was brought to Ngauruhoe, into the crater of which the chief then threw his slave wife Ngauruhoe. This mountain is called by some Auruhoe, but most commonly Ngauruhoe, though both names are considered correct.

The ascent of Tongariro may also be made from Oturere, but it is best done from Papakai (described in the Tokaanu–Raetihi route, see page 540).

At 25 miles the Mahikaikatoa Stream is crossed; then come the Mangatawhai and Mangamate Streams, at 27¼ and 27¾ miles respectively, all running in deeply-cut gorges fringed with birch bush.

At 30 miles the Moturoa Bush is seen to the right. From here there is a fine view of Taupo Lake, and from a little lower down Rotoaira Lake is seen to the left, lying between Tongariro and Pihanga.

At 31¾ miles the Puketarata Creek is forded. From this onwards the country consists of low, undulating ferny ridges of very poor quality.

At 34¾ miles the road to Rotoaira turns off. This is described under Tokaanu–Raetihi route.

At 36½ miles the Poutu River is crossed by a two-span bridge. This stream drains Rotoaira Lake, and has a very rapid fall. About half-a-mile down it joins the Waikato River, which has now become a large stream with shingle bottom, pumice banks, and beautiful clear rushing water.

The Waikato falls into Lake Taupo by a sort of delta, and in conjunction with numerous other streams flowing into the lake, finally emerges out of the lake at Taupo Township on its way to join the ocean on the west coast.

After crossing the Poutu River the road skirts the north-eastern slopes of Pihanga, with fine forest on its slopes, and an extinct crater on its summit.

At 39¾ miles one road turns to the right, going to the Waikato Bridge and onwards to Taupo, while the one to the left leads to Tokaanu.

The route now lies over low undulating ridges, flats, and swamps, covered with manuka, scrub, toetoe, raupo, or flax, into Tokaanu, which is reached after passing round the southern base of the volcanic cone, Maunganamu. The total distance from Waiouru to Tokaanu is 43¾ miles, the mileage being marked by red posts, with the numbers cut on them, on the western side of the road.

Tokaanu is situated on a stream of the same name, about a mile from the lake, and is 1,200 ft. above sea-level. The whole flat between the Tokaanu Stream and the volcanic range behind teems with thermal action of all descriptions. The hotels are cleanly kept, and can supply good meals, beds, horse-feeds, and paddocking. If the travellers prefer camping out there are plenty of good sites in the locality, though possibly the Natives will object to camps being pitched too close to their dwellings or to the *puias* which they frequent.

In order to see the chief attractions of the place, it is necessary to cross the Tokaanu Creek by a bridge formed by a hollowed-out tree. The geyser Te-korokoro-a-te-poinga is reached by taking a small path to the right, after crossing the bridge. It does not now throw out the water, but at intervals raises the water-level several feet. It is always in a state of turmoil, and emits a large column of steam. Across the bridge are several *puias*, in which very pleasant baths may be had. The temperature varies from time to time. A *puia* may be cold one year and boiling in the next, and *vice versâ;* in fact, even from day to day there are great variations in temperature. It is, therefore, always necessary to try the temperature of the water before entering. It is dangerous to wander about in the locality of the *puias* anywhere off the beaten track without a guide, as the ground is notoriously treacherous, several painful accidents having been recorded. Hitherto these *puias* and the sights generally of Tokaanu have not been improved in any way by the formation of tracks, by shelter-sheds, dressing-rooms, regulation of the waters, or in any other way. A township has recently been laid off under Government supervision. After this is sold, however, private enterprise on secure tenure will soon remedy these deficiencies.

On the slopes of Kakaramea, to the south-west of Tokaanu, there is a regular line of steam-holes, supposed to indicate approximately the upper limits of the great landslip that overwhelmed many of the Native inhabitants in 1846, the chief, Te Heuheu, and fifty-four of the inhabitants of the kainga being killed, only three escaping.

Waihi, a Native settlement on the shores of the lake, 2 miles westward from Tokaanu, may be reached by a rough track, but it is much pleasanter going there by boat or canoe, provided that the lake is sufficiently smooth. The present chief, Te Heuheu, grandson of the chief of the same name who was killed in the landslip above mentioned, lives at Waihi. There is a Roman Catholic mission station and church at Waihi. The Waihi waterfall is situated close to here. It consists of three drops, the upper of which is 25 ft. the middle 125 ft., and the lower 15 ft., making a total of 185 ft. There is a fairly large body of water, and its surroundings are very pretty.

Pleasant boating excursions along the western shores of the lake may be made from Tokaanu, but voyagers are warned of the sudden squalls that visit the lake, very soon raising a heavy sea. Excursions by land may be also made to Pihanga, Kakaramea, and Roto Aira. There is a Native bridle-track leading over the saddle to Roto Aira between these mountains. Pihanga, 4,000 ft., is on the left of the track, and Kakaramea, 4,259 ft., on the right. A guide through the bush is necessary to both of them. The views from the summit of either of them are very fine. Both are extinct volcanoes.

Roto Aira may be reached on foot or on horse in about three hours from Tokaanu by going over this saddle, or by driving along the Waiouru Road, turning off at the Roto Aira Road Junction. This track going over the saddle to Roto Aira may be continued in order to reach Papakia, from which the ascent of Tongariro is made. It is about 10 miles shorter than by following the main road.

TOKAANU–RAETIHI.

This road is up to the present only passable for riding, as about 25 miles in the centre still remain unformed. It is now being improved throughout, and in the course of a few years will be a very picturesque tourist route, considerably shorter for travellers to the Wanganui River at Pipiriki than by the present one. And, besides, it will supply better bases for the ascent of the mountains, the land on that side being much more suitable for close settlement than on the Tokaanu–Waiouru route. Horse-hire is usually at the rate of 7s. 6d. a day, but special arrangements may be made for a longer period—probably £1 15s. a week.

As previously mentioned the Tokaanu–Waiouru Road is left at a distance of 34¾ miles from Waiouru, the turning-off point being marked by a direction board. The distances on this road are not marked; low pumice ridges covered with fern, manuka, and tutu are traversed. A very deep creek—Mangapouhounui—is crossed about a mile and a half from the junction.

The Poutu River, running down the valley between the road and Pihanga, drains Roto Aira, a fine sheet of water about 2,000 ft. above sea-level, and about 3,700 acres in extent. At the outlet of the lake is a small kainga, the remains of a once important pa, at which some skirmishes took place during the war. From a cave on the northern side of the lake there are said to issue at certain times a curious variety of blind fish named "Inanga," which are captured and eaten by the Natives. To the south of the road is the Tongariro Range.

The powerful blow-hole, Te Mari, is seen on the north-eastern slope, at an elevation of 4,990 ft., and on the north-western slopes are the Ketetahi Hot-springs, at an elevation of 4,800 ft.

At 10 miles the Native kainga Otukou is reached. This kainga is situated on the stream issuing from Ketetahi.

A sideling is then ascended, and a tussocky plateau reached, on which is situated Papakai, at 12 miles from the junction. The kainga is about a mile nearer the mountain than the road. Here the short cut from Tokaanu over the saddle joins the main road.

From Papakai the ascent of Tongariro is most conveniently made. Though there are a few Native whares and other buildings here, it is advisable to bring all camping requisites, for it is almost impossible to leave Tokaanu, see anything of the sights of the mountain, and return the same day. A proper riding-track is being formed up to Ketetahi, so as to render it more easily accessible for invalids. At present it is only possible to walk there, and persons unable to walk have to be carried. The distance from the road to the springs is 7 miles. The first few miles is over tussocky plains, but the rest is over ground covered with lava and scoriacious ash. A hot stream from the springs is crossed, and soon after this the springs are reached. The quantity of steam finding vent here is enormous, and the noise is deafening. The column of steam is clearly visible at Taupo Township, 40 miles away. The waters have wonderful curative properties, and if they were only more easily accessible, and some accommodation at the spot was available for invalids, the place would soon become a regular sanatorium.

After leaving Ketetahi, the summit of Tongariro, 6,040 ft., is easily reached. The vents of Te Mari, a mile and a half distant, may also be reached from Ketetahi. Immense volumes of steam also issue from this blow-hole. There was an eruption from here early in 1897, the quantity of ejecta being so great that it covered the road three miles distant. There are on top of the Tongariro

Range eight craters of various sizes, all extinct, but some of them still showing signs of thermal activity. One crater contains a pond of blue water, and another crater has on its floor three ponds of green water, and on top in all directions may be seen evidences of former enormous volcanic activity. The views from the range northwards especially are very fine. This mountain may be ascended without a guide, but it is much better with one, as the guide knows where the best sights are, and in case of fog can pilot the travellers down. Guides can also regulate the disposal of time. When the bridle-track is formed up to Ketetahi it will then be possible by severe exertion to leave Tokaanu, ascend Tongariro *viâ* Ketetahi, and return on the same day.

Resuming the journey from Papakai, the road traverses undulating open country, intersected by numerous streams draining into the Wanganui River, which is crossed at 16 miles by a good bridge. At the edge of the bush, 3 to 4 miles north-west of Papakai is Porere, where a severe skirmish took place between the friendlies, assisted by a few whites, and the hostile Natives under Te Kooti, ending in the dispersal of the latter.

From the Wanganui River the road continues over undulating tussocky ridges of poor quality, with the spurs of Tongariro coming down on the left, and the forest about 2 miles to the right.

At 18 miles another large stream, the Mangatepopo, is crossed by a dray-bridge. A long hill is ascended, on top of which there is a wide-reaching view of the Waimarino Plains—open country, consisting of long rounded tussocky ridges, intersected by creeks and swamps. Most of the creeks about here are inclined to be dangerously soft in the bottom, and horsemen should enter cautiously.

About two miles to the right is Okupata, the homestead of Messrs. Robison and Co., who graze sheep over these plains.

A track branches off to the left towards an isolated volcanic cone of striking appearance named Pukeouaki, 4,023 ft. Some distance beyond this cone there is a good lava-stream extending from the bottom almost to the top of Ngauruhoe, which affords one of the easiest routes for ascent of this peak, and when the dray-road is completed along this western side this will probably be the favourite route. Good camping-places may be found at the small clumps of bush near Mangatepopo, but all supplies and camping requisites must be brought from Tokaanu or some other centre.

Continuing the journey on horseback two large streams, the Whakapapaiti and the Whakapapanui, are forded. When the rivers are in fresh great care is necessary in fording, for the bottoms are composed of rough boulders, on which horses are apt to stumble.

A large swamp is now skirted, the track keeping round to the left. A belt of bush has here to be gone through, the Mangahuia Stream being crossed about the centre of it. The country here is mostly open, but scattered over it are picturesque clumps and belts of bush, mostly composed of birch-trees, the whole scene being backed up by the range of craters on Tongariro, by the ever-active volcano Ngauruhoe, and further to the south by the colossal Ruapehu, which is more or less snow-clad, though the northern side is bare from about December to April. The views of the range on this side are distinctly finer than are seen from the eastern side.

This park-like country continues till the Waimarino Pa (2,600 ft.) is reached at 32 miles. Here there is a deserted Government hut, at which in the present condition of the country it is desirable that the travellers should camp and spend the night, the horses being tethered among the tussocks in front. There are a few Natives at this pa, but they are gradually leaving for the warmer country towards the Wanganui River. The hut above mentioned is situated on the right bank of the Waimarino Creek, across which is dense forest, which spreads over the slopes to Hauhangatahi (4,983 ft.), a volcanic cone long since extinct.

From the Waimarino Pa a bridle-track, 28 miles in length, leads to Taumaranui, but, except for the splendid forest passed through for 20 miles, this route is uninteresting. On this track the first four miles or so are through open tussock country, when the forest is entered. For about 2½ miles the track is newly formed, and in good order, but beyond this it is narrow in places, and frequently blocked by scrub and fallen limbs. Numerous creeks are crossed, all running into the Piopiotea or Whakapapa Streams, down whose valleys the track runs. At about 20 miles, after passing a natural clearing, a grand totara forest is traversed. It is said to be the largest and one of the finest in New Zealand. Its area is still doubtful, but covers probably 8,000 acres. At 24 miles the track enters upon open country, through which the Wanganui River is seen far below, flowing between low terraces mostly composed of pumice. The left bank of the river is followed for about four miles, when the track crosses by a capital ford, and shortly afterwards Taumaranui (592 ft.) is reached.

Resuming the journey from Waimarino to Raetihi, four miles after leaving the pa the bush is entered, and except for settlers' clearings there is no break till Raetihi is reached. The track is notorious for being about the worst in the district, but it is now being converted into a dray-road. The forest is very fine, and gradually becomes heavier as the elevation becomes less, towards Raetihi. Rimu is the predominant timber, but yellow-, black-, and white-pine, totara, maire, and tawhero are also seen. Kaikawaka, or New Zealand cedar, is also noticed, especially on the higher elevations. One mile after entering the bush the Makatote Stream, running in a gorge cut deeply through conglomerated rock, is crossed by a viaduct, dray-road width, 520 ft. long and 85 ft. high, which has, however, never yet been even approached by wheel-traffic. After another mile and a half has been traversed the Manganui-a-te-ao Stream is crossed by another large bridge, 138 ft. long. Three miles further on the Mangaturuturu is forded. The water of this river is of a sulphurous nature, somewhat resembling that of the Wangaehu, and, like it, rises in Ruapehu.

From onwards to Raetihi, a distance of 12 miles, there is nothing of interest to note, except the great extent and luxuriance of the forest, and occasional pretty glimpses of Ruapehu, which lies about 5 miles to the left of the track. Here and there are settlers' clearings, but the herculean labour of converting this forest-land into farms is too great for men with limited means. The felling only of the bush is valued at about £2 an acre. There is a gradual descent for the last 9 miles down the valley of the Makotuku Stream. The last two miles before reaching Raetihi is dray-road, and partly metalled.

At 20 miles from Waimarino Pa the township of Raetihi (1,715 ft.) is reached.

WAIOURU-MANGAONOHO.

This is a coach-road, open all the year round.

Waiouru, 2,570 ft., is on the high tussocky plateau before described. The route lies for 8½ miles through open undulating country, usually close to the Hautapu Stream. Three thousand trout were put into this stream in 1894, and as its banks are low and clear, and it is clear water with plenty of shelter, it ought soon to become a favourite fisherman's resort. The Hautapu River is crossed by a ford, the bridge previously existing there having been washed away by a flood in April, 1897. A belt of bush is passed through for 2 miles, the Hautapu River rushing along deep down below the road on the right.

Turangarere, 10 miles, is situated in an open valley. The Main Trunk line will pass through it. The place is very busy during the wool season—packing, scouring, drying, baling, and carting wool.

Passing along through the open country, Te Horo Junction is reached at 14 miles. Here the road to Moawhango and Napier turns off to the left. There is an accommodation house here.

Open undulating country, of very much better quality, is passed through till the 17-mile peg is reached, when a belt of bush is traversed. After a short glimpse of open country, bush is again entered, and, except for settlement clearings, it continues all the rest of the distance. A long descent is made, and the Hautapu River is again crossed, this time by a picturesquely-situated bridge.

At 21 miles the Township of Taihape is reached. This is at present a promising place. There are several farms and a large labour-settlement in the vicinity. The route of the proposed railway is again struck here. There will be a large viaduct across the Otaihape Creek. The coach-horses are here changed, the passengers meanwhile having lunch at one of the two accommodation-houses. From Taihape the road runs down the right bank of the Hautapu River for miles through splendid bush-country, mostly flat.

At 25¼ miles there is a road (Torere) turning off to the left, a quarter of a mile along which there is a bridge 83 ft. long, thrown across a deep cañon cut in the papa by the Hautapu River.

At 26½ miles Utiku, a settlement on Native land, is reached. The place is kept busy by the co-operative men working on the railway and adjacent roads, as well as those employed in the sawmill, the timber being mostly conveyed by wagons from here to Mangaonoho. A quarter of a mile to the left there is a splendid gorge on the Hautapu River. Low undulating ridges, with fine forest, are passed for the next 2 miles, parties of co-operative workmen being seen to the left engaged in the formation of the North Island Main Trunk Railway. Fine sandstone precipices tower over the road at 28⅞ miles, the Rangitikei River running to the left in a confined bed cut 200 ft. below the adjoining terraces.

From 29 miles the road climbs round rough sandstone and papa sidelings for 7½ miles. Extensive views are obtained (especially about the 32-mile peg) of the forest-clad valley of the Rangitikei River, while about 20 miles to the east lie the Ruahine Mountains, whose bare, rugged tops are 5,000 ft. high and more.

From here onward the settlement clearings become more and more extensive. The land being of excellent quality is eagerly taken up. The road runs down the valley of the Mangaweka Creek for 3 miles, when, on rounding a point Mangaweka Township, 37 miles, elevation 1,066 ft., comes suddenly into view. This township was sold in March, 1895; since then its growth has been remarkable. Within a 2-mile radius it already has a population of over seven hundred. Corner sections are changing hands at large sums. The cause of this sudden increase is partly due to the large amount of Government money spent in the vicinity on railway, road, and bridge works, but more owing to the great amount of new country being developed in the surrounding district, most of which drains into here. A large bridge is being erected across the Rangitikei River, about a mile to the east of the township. The cliffs of the Rangitikei for several miles both up and down from the bridge are exceedingly picturesque, ranging in height from 200 ft. to 400 ft., every available space of ground being covered with vegetation. It is, however, melancholy to notice how this scenery is being spoiled of much of its charm, by the destruction of the beautiful native bush in places where the ground is so rough as to be almost useless for any practical purpose.

From Mangaweka roads run eastward to Kawhatau and Pemberton, and westwards to Te Kapua. The coaches only stop here for a few minutes to pick up mails; but if good accommodation is desired it may be obtained. Horses or buggies may be hired here at reasonable rates. The railway works to this point are now almost completed, with the exception of the Makohine Viaduct. The work involved in constructing the railway northwards of Pouwhakarua is of a very heavy and costly nature.

Crossing Mangaweka flat, a mile and a half long and perfectly straight, Pouwhakarua Hill is climbed. After descending the same and traversing 4 miles of flats, now all in grass, the Township of Ohingaiti, 43½ miles, elevation 838 ft., is reached.

In the present state of the railway-works the trains do not come further than Mangaonoho, at 47¾ miles. As the accommodation there is limited, the coaches usually stay the night at Ohingaiti and catch the early train from Mangaonoho in the morning. There are three hotels in Ohingaiti. Horses and buggies may be hired here. This township was very busy some years ago, but is now being supplanted by Mangaweka. The coaches usually arrive here about 5 p.m. and leave next morning for Mangaonoho at 5.45, in time to catch the 6.40 a.m. train for Wanganui or Palmerston North.

Leaving Ohingaiti by either of the two lines of coaches, the road at about 45 miles passes just along the top of the Rangitikei Cliffs, 200 ft. almost vertical above the river; then a sharp descent (1 in 13·2) is made to the Makohine Stream, crossed by a bridge 95 ft. long.

Fifty yards up stream the Makohine Viaduct for the Trunk Railway is now under construction. It is a large structure, 750 ft. long and 238 ft. above the bed of the river. It consists of a central span of 176 ft., with two side-spans of 247 ft. and two end-spans of 40 ft. each, all founded on concrete piers, those for the central span being especially massive. The piers are composed of steel lattice-work towers, the superstructure consisting of two lattice-work steel trusses. The approach to it on the southern side is through a tunnel 9 chains long. A sharp ascent is again made out of the Makohine Valley, when after another mile and a half of flats Mangaonoho Station, 47¾ miles, is reached. This is the present terminus of the railway.

Hunterville is the first station reached. A pleasing ride or drive from here is up the Turakina Valley Road. There is pretty scenery nearly all the way. Along the Turakina River the cliffs are very striking. The river is crossed at 12 miles by a ford made of concrete. At 17 miles there are two fine falls, the lower one (Rerepara) with a depth of about 80 ft., and the upper one (Otaemata) about 25 ft. There are other falls 3 miles higher up even finer, only they are as yet inaccessible by vehicle.

From Hunterville the train proceeds to Marton (491 ft.) where the main line is struck. Distances from Junction: To Wanganui, 34 miles; Palmerston North, 29 miles; Wellington, 117 miles. From Marton to Wanganui, a journey of a little over two hours by train, good well-settled country is passed, sheep-grazing being the chief use to which the land is put. The country is of a terrace formation. The Turakina and Wangaehu Rivers are crossed. A stiff ascent and descent of the Fordell Hill is made. A few miles down the Matarawa Valley the Wanganui River is crossed by a bridge 600 ft. long, in five spans on cylinder piers, and Wanganui is reached.

TUHOELAND.

[By ELSDON BEST.]

THE isolated district known as Tuhoeland, or the Urewera Country, is situated between Rotorua, the thermal district of the North Island, and Hawke's Bay on the East Coast. It has an area of about 700,000 acres, and is mountainous in the extreme, containing but very little flat land. The whole country is covered with forest, with the exception of clearings made by Natives for the purpose of cultivation. On the tributaries of the Whirinaki River lies a splendid forest of totara, a valuable timber. The soil is light, being usually a few inches of vegetable soil overlying pumice sand.

This district is inhabited by the Tuhoe or Urewera tribe of Maoris, who are direct descendants of the original Polynesian people of New Zealand found here after the famous migration of the ancestors of the present Maori to these isles at about the fourteenth century. The Urewera have ever been noted as a warlike and independent people, fierce, wild bushmen, who raided down upon their lowland neighbours on all sides, and who for many generations past gradually extended the boundaries of their tribal lands at the point of the spear.

From an ethnological point of view, this tribe is the most interesting of any of the Native peoples. They have always been isolated from the changing tribes of the lowlands, and have thus preserved to a great extent the old-time customs, as also a vast amount of legendary and sacerdotal lore.

These Urewera were our most bitter foes during the Maori war, and have kept their country closed to Europeans until some four years back, when road-surveyors were sent in to lay off a line of road to connect the Rotorua district with the East Coast, the desired result being fortunately obtained without serious trouble through a firm policy being adhered to by the Government of New Zealand.

As a specimen of Native legends, we present the following account of how Maui, the Polynesian demi-god, endeavoured to obtain eternal life for mankind—in the days when the world was young:—

HOW MAUI STROVE TO GAIN ETERNAL LIFE FOR MANKIND.

Far back in the very night of time dwelt Maui the Hero, son of Taranga. He it was who slew Tuna, the dread eel-god, and stayed the sun in its course by snaring it at the edge of the world, where the sky hangs down, that it might travel more slowly through the heavens and thus lengthen the hours of light to man. For man was yet young upon the earth, and remembered full well the horrors of the Primal Darkness before Light was.

Rangi (the Sky) lay with Papa (the Earth Mother). Born of the Great Void and Darkness were they, and begat Tane, the god (tutelary deity) of forests and of birds; and Tu, the Red-eyed, god of war, who turns his dread visage upon mankind, when war parties ravage the earth and wailing, desolation, and the fierce joy of slaughter fills the land; and Rongo of the Peaceful Mind, whose mission was to cultivate the soil and strive against war.

And Tane took Hine-rauamoa, who descended to the under-world, where she became Queen of Hades, and was known as Hine-nui-te-Po (the Great Goddess of Oblivion or Death). She it is who drags down the offspring of man to the Realm of Darkness.

Maui of the Many Lands arose. He said: "Let death be brief, and, as the moon dies and returns again to life, young and beautiful, so let man die and revive." But Hine of the Dark World said: "Not so. Let death be eternal, that wailing and grief may be the portion of man for all time." And Papa (the Earth Mother) spoke: "Return unto me my children, for they shall know death. From me they sprang, and to me shall they return."

And Maui the Hero spoke truly. For we know that the moon wanes and dies, and that she goes afar off to bathe in the Wai-ora-o-Tane (the Life-giving Waters of Tane), where she revives and returns to us again young and fair.

Then the thought came to Maui. He would descend to the Reinga (Hades), and by entering the womb of Hine-nui-te-Po he would obtain her *manawa* (vitality, breath of life). Then life would depart from that dread goddess. No more would man be dragged down to decay and death, but life eternal be his for evermore. Then shall man say,—"Behold! It is Maui, son of Taranga. Maui, the Sun Snarer, has brought eternal life to man."

So Maui called upon his people, the forest folk, the Hakuturi and the Children of Tane (birds), and told them of this, his great task. But they said: "Go not, O, Maui, for never shalt thou prevail against great Hine of the Night, but death shall be thy lot."

But Maui persisted. Should he who conquered the Sun shrink in dismay from this man-destroying Hine? Not so. And the way opened to them as they went, Maui and the light-hearted forest people, the sunny-haired fairies, and the singing birds.

So came they to the drear realm of Hine of the Sullen Deeps, and found that fearsome female asleep. Then Maui warned his companions that they might make no noise to awaken the Queen of Hades, and proceeded to enter into her that he might obtain her *manawa*. But even as he entered so far as his shoulders, the little *tiwaiwaka* (fantail, a bird), thoughtless and merry as now, laughed aloud at the strange sight. Then Hine of the Night awoke, and Maui the Hero knew Death.

Now Hine had long known of Maui's desire to destroy her dread power, and had worked the works of old in order to be enabled to slay him. She first sent the mosquito to obtain a drop of the blood of Maui as his *ahua* (semblance), and to be used as an *ohona*.* But Maui heard the humming of the mosquito, and slew it Then Hine sent the silent *namu* (sandfly), which obtained a drop of Maui's blood and hastened back with it. The life of Maui now lay in the hand of Hine of the Night, and the end was near. Great, indeed, were the powers of our ancestors in *makutu*, and so it was that Maui found death. And man, for whom he died, shall never gain eternal life, but die—and die—and die.

THE JOURNEY FROM CHRISTCHURCH TO THE WEST COAST.

[From a paper by G. J. Roberts.]

The most-frequented route into and out of Westland is *viâ* Arthur's Pass. The whole distance from Hokitika and Greymouth, the leading centres, may be traversed by rail and coach, and is a favourite run for cyclists, who pronounce it one of the smoothest journeys in the island.

Springfield, 44 miles by train from Christchurch, situated at an elevation of 1,252 ft. above sea-level, is the usual starting-place for what is undoubtedly one of the finest coach-trips in the colony, along the Christchurch–Hokitika Road, which is kept in splendid order, being one of the few roads maintained at the expense of the colony. Lord Brassey, in writing of it, says: "The road is in many places cut out of the steep face of a precipice, with sharp turns in most critical places. If the horses were not perfectly trained, and the driving most skilful, coaching would be impracticable."

The Kowhai Bush Village, situated at the foot of Mount Torlesse, on the edge of the Kowhai Forest, 1,300 ft. above sea-level, 3 miles by road or rail from Springfield, is a very favourite resort for picnic parties, and for excursionists from Christchurch and the surrounding plains. Comfortable rooms can be secured from several of the settlers at reasonable rates by those wishing to extend their stay. Trips beyond the village can be made, either on foot or horseback, to the Waimakariri Gorge, Otarama, the waterfalls, and Staircase Gully.

About 5 miles from the hotel at Springfield, lying under Mount Torlesse, is the Rubicon Lake, on which skating may be had in suitable weather.

Another attraction in this neighbourhood is the ascent of Mount Torlesse, an easy climb, which can be undertaken either from Springfield or Kowhai Bush. A magnificent panorama of the whole of North Canterbury, Banks Peninsula, the plains as far as the eye can reach, and the snow-capped peaks of the Southern Alps, awaits those who reach the top, which is 6,433 ft. above sea-level. From where the ascent commences it is 1,400 ft., making a climb of 5,000 ft., which should easily be done in four hours by quite inexperienced climbers.

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* Ohona.—Something connected with a person, a piece of his clothing, or hair, &c., used as a medium over which to perform the rites of *makutu* (witchcraft) in order to slay the original.

From the hotel at Springfield, where good accommodation can always be obtained, horses and vehicles are on hire at reasonable rates, experienced drivers being supplied when required. Situated within a mile of Springfield are pottery-works, and mines from which an excellent lignite-coal is obtained.

Nine miles from Springfield, on the Hokitika Road, the foot of Porter's Pass is reached, about 2,000 ft. above sea-level. The road ascends to the pass by easy gradients, the top, 3,102 ft. above sea-level, being the highest point touched on the road; from top to bottom being a distance of two miles and a quarter.

A mile and a half further on Lake Lyndon is reached. Here the road from the Rakaia and Lake Coleridge branches off.

Five miles beyond the lake the Castle Hill Rocks are reached. These form fantastic groups of various forms, and fine bold masses of limestone rocks, from which an excellent building-stone is obtained. The limestone caves, a mile and a half from the Castle Hill Hotel, and less than half a mile from where the main road crosses the Broken River, are of great interest. The whole Cave Stream runs underneath the surface through a limestone cavern for a quarter of a mile, the stream rushing into the cavern over a waterfall about 20 ft. in height. For the first few chains it is very difficult to follow, on account of deep pools, but after these are passed the stream can easily be followed through the cavern to its junction with the Broken River, where, at the exit, there is a beautiful natural cavern, through which a very large load of straw might be taken without touching the top or sides. The Castle Hill Hotel, 20 miles from Springfield, and 2,371 ft. above sea-level, surrounded by ranges and peaks from 6,000 ft. to 7,000 ft. high, is an ideal resort for invalids and those desirous of a thorough change.

Seven miles further on Lake Pearson, 1,990 ft. above sea-level, is reached. This is a sheet of water two miles and a half long and three-quarters of a mile wide, round which the road winds for over a mile.

Within a few miles the road passes Lake Grasmere, with easy sloping flats on the southern side, and abrupt precipitous country covered with scrub and patches of bush on the north. The Cass, 35 miles from Springfield, and 2,371 ft. above sea-level, is the junction for the road leading to the country on the north side of the Waimakariri. The cuttings along the Waimakariri are very interesting, the road in places being cut out of the solid rock, and in places built up from the river a considerable height.

The Bealey, 45 miles from Springfield, situated 2,130 ft. above sea-level, at the junction of the Bealey and Waimakariri Rivers, is the usual stopping-place for the night, occasionally as many as a hundred visitors having been there at once. Lying at the foot of rugged mountains, covered to a height of over 4,000 ft. with tawhai, and running back into perpetual snow, the situation of the Bealey

Township is a particularly favoured one, the sunsets on the evenings after a nor'-wester being remarkably fine.

From the Bealey an interesting trip is to the head-waters of the Waimakariri, where there is an easily-accessible glacier. There is a fair riding-track to within 2 miles of the glacier, which could easily be extended right up to it. From the junction of the Crow River, 6 miles above the Bealey, the first true glacier is seen, ascending to about 4,500 ft. above sea-level. It is situated at the head of the former tributary, on the southern flank of Mount Rolleston. About a mile beyond the junction of the northern branch, and 10 miles from the Bealey, the White River turns to the south, and its valley for a mile and a half has still a considerable width. Here, at an elevation of 400 ft., the growth of the *Fagus* (tawhai) ceases. The view up the valley, narrowing with almost every step, now assumes each moment a grander and more alpine aspect. A high peak with noble outlines appears at the head of the valley, from which a glacier of considerable proportions descends. The mountains on the left bank also rise high into the sky, and are covered with perpetual snow, from which small glaciers and torrents issue, several of the latter forming fine waterfalls. The mountains on the right bank rise almost perpendicularly for more than 3,000 ft. above the valley, so that only here and there can snow remain lodged on the lesser declivities. After 2 miles the rocks on both sides approach closely, and for 2 miles more the river forms a series of rapids and smaller falls, possessing a different character from that of our large glacier rivers. Near their sources at several points old moraine accumulations cross the valley, through which the river has formed a narrow passage. Near its termination the valley is considerably enlarged, and has the form of an amphitheatre, into which the main glacier, about 200 yards wide at its terminal face, descends to 4,260 ft. above sea-level.

About half a mile from the head of the valley, at an altitude of about 6,000 ft., a magnificent sight is offered to the traveller by a large glacier broken up into the wildest and strangest forms, actually overhanging a perpendicular rocky wall about 1,000 ft. high, and at one spot, where a small rill could form, it descends for some distance in the shape of a gigantic icicle. A rare harvest of alpine plants may here be gathered.

After leaving the Bealey Township the road crosses the Waimakariri, winding up through avenues of tawhai, along the steep banks of the Bealey River.

About 8 miles from the Bealey the Devil's Punchbowl is reached. This is the basin of a magnificent waterfall, broken in the middle, of a total height of over 500 ft.

The road from here ascends very rapidly up the slopes of Arthur's Pass, through a dense tawhai forest, until it reaches the summit, 3,038 ft. above sea-level. Looking to the south, the Goldney Glacier is seen arising out of the perpetual snows of Mount Rolleston.

Fares.

The coach-fare from Springfield to Jackson's (distance 74 miles, the present termini of the railway on either side of the range) is £2 10s. single, and £3 15s. return. This does not include meals, or expenses for the night passed at the Bealey. The service is twice a week.

ARTHUR'S PASS.

Leaving the Pass, the road runs westward, and is fairly level for a mile along the northern side of the tarn-dotted depression which lies between the moss-grown angular rocks of two ancient lateral moraines. The bottom of this trough is carpeted with a velvety sward, variegated with a sprinkling of alpine flora and blossoming shrubs. The adjacent sidelings are covered with loose *débris*, partly overlaid with brooms, veronicas, &c., with interspaces of tussock grass. Above all, on either side, stand the bold, roughened slopes of the main divide, ribbed with naked spurs and scarred by numerous stone *couloirs*. Looking eastward, the far-reaching vista of the bush-clad faces and rock-crowned heights of the Bealey Gorge may be seen, while outlined in the distance loom up the smooth-flanked mountains of the Waimakariri Valley. Westward, on the right, appear the rocky crests of Hill's Peak, and on the left the snow-flecked summit of Mount Temple, with the miniature Goldney Glacier overhanging the rock-strewn slopes of the Upper Otira.

OTIRA GORGE.

The road now dips sharply into the valley, whence a short smooth stretch, bordered by stunted cedar and the palm-topped neinei, leads to a huge talus of enormous rocks, up and down which it winds to the top of the "Zigzag," from which a lovely view is obtained. Behind and in front are precipices, fully 2,000 ft. high, topped by fantastic rocky pinnacles, presenting bold faces of rock almost destitute of vegetation. Below, on the left, the river surges over obstructing boulders, and falls in picturesque cascades; in front appears the ravine of the Otira Gorge, coated with shaggy, gnarled, storm-twisted forest, and bounded by the snowy crown of Mount Barron. The grade now descends rapidly, snaking through accumulations of rocks overgrown with dwarfed ratas, and a tangle of alpine underbush. And thence for a distance of 2½ miles there are obtained swiftly-succeeding glimpses of waterfalls, fissured cliffs, and plunging rapids. The coach-road twists down the cañon, sometimes benched out of the rock and overhanging the foaming river 200 ft. below; at other places the traveller is carried along on timber buttresses almost level with the water, crossing and recrossing the stream on single-span bridges of 120 ft. clear, which appear dwarfed by the surrounding magnitudes, until, sweeping round a bush-clad spur, the stage of Otira is reached at the junction of the Rolleston River. This small settlement consists of the hotel, roadman's cottage, and Cobb and Co.'s stables. The telephone- and post-offices are located in the hotel, which commands an extensive outlook on the surrounding mountains.

Varied excursions from this as a centre may be made on foot, horseback, or by buggy.

One excursion is up the gorge, passing the intermittent hot-spring, and making rests in the many nooks which are inviting by their cool shadows and bright outlooks. The gorge can be explored on horseback or by buggy, or it may be comfortably exploited on foot in six hours, and a rich harvest gathered of ferns, mosses, and alpine flowers. A succession of days can be enjoyably employed on this outing.

The whole or part of a day may be taken on horseback, by buggy, or on foot down the valley of the Otira, every bend of the road disclosing new prospects before and behind, the luxuriant vegetation on either hand tempting many side excursions.

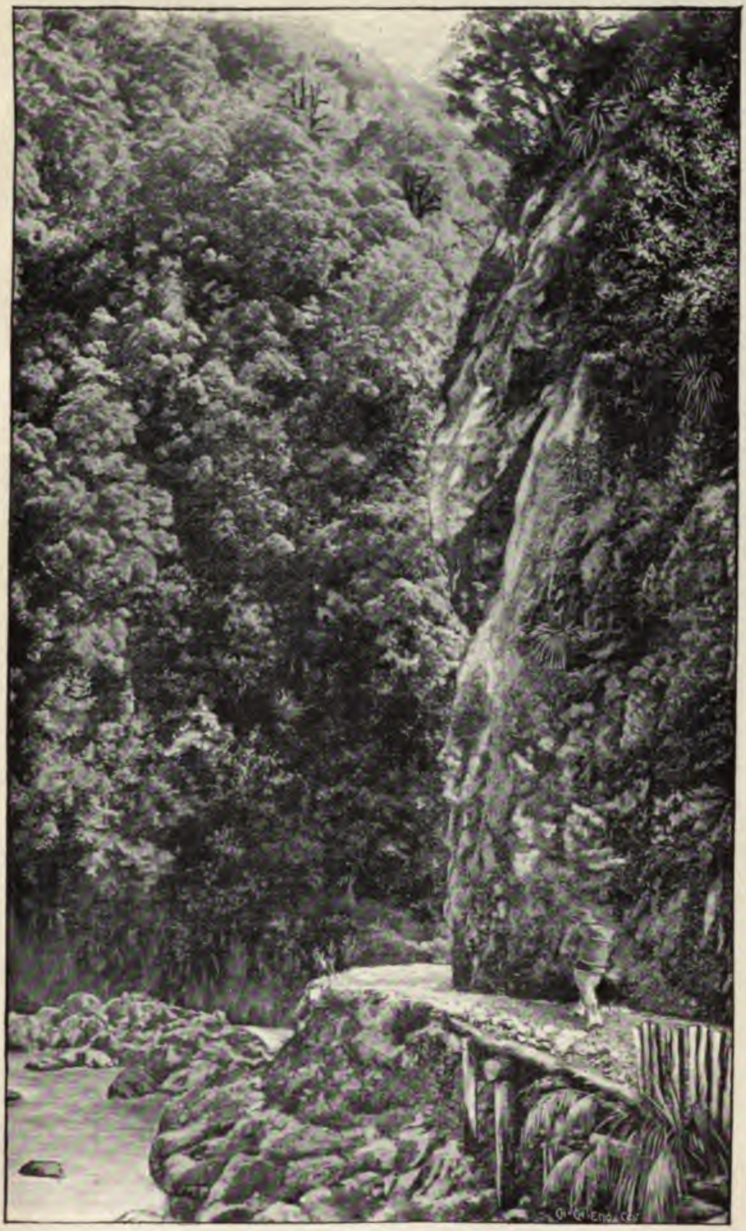
A third is with horse or on foot up the boulder-strewn valley of the Rolleston River. In half an hour the tourist is out of sight of civilisation and surrounded by lofty rock-faces patched with snow, scored by deep gullies, and swathed with forest.

A fourth excursion includes various easy ascents of the adjacent hills, which may be made on foot, up Goat Hill just behind, and Mount Barron right in front of the hotel; up the grassy, shale-strewn slopes of the divide at the Pass, and up Hill's Peak. A pleasant scramble just behind the hotel can be obtained up Barrack Creek, the terminus being a lovely waterfall. The experienced mountaineer can attempt various peaks in the vicinity, such as Mount Franklin, at the head of Deception River, and Mounts Rolleston, Temple, and Armstrong at the sources of Otira and Rolleston Rivers.

The New Zealand Midland Railway is in course of construction from Jackson's to a point in the Otira Valley, about 1½ miles below the Otira Gorge Hotel, and the works are now so far forward that the authorities expect to be able to open the line for public traffic by Christmas, 1899.

AICKEN'S.

Leaving the Otira, the road crosses the river and works down the western bank, skirting the forested base of the Barron and Kelly Ranges. Every mile reveals new beauties of scenery, for, as the road passes the outlet of numerous gorges, glimpses are obtained of distant peaks, while each moment the snowy crests of the Kaimata Range loom nearer and nearer, until, rattling down a beech-covered avenue, Aicken's is reached. This has been happily termed "a quiet nook on the West Coast Road." The surroundings are very lovely, and fine collections may be made of rare ferns and mosses. A post-office and telephone is attached to this hostelry, which is conveniently situated near the junction of the Teremakau and Otira Valleys, thus permitting three main outlets. First, either by buggy, on horseback, or on foot, up the main road towards the Otira.



Otira Gorge. [*To face page 552.*

Second, down the coach-road towards Jackson's. Third, on horseback, up the main valley of the Teremakau, amongst ever-changing aspects of mountain, forest, and flood.

Two other favourite outings from this centre are frequently made by artists and others—viz., ascents of Kelly's Hill and Mount Alexander, on both of which ranges are several beautiful tarns begirt with eidelweiss and other alpine plants, while the views from the summits are superb and far-reaching.

JACKSON'S.

Proceeding westward the road passes through an avenue of magnificent red- and black-pine forest for a mile, when the valley of the Teremakau opens forth inland and seaward, spreading out an ever-changing vista of forest-clad mountains, the giant cone of Mount Alexander dominating the whole. The vegetation alters every mile onward, scattered tree-ferns are visible, todeas abound, until, on reaching Jackson's, the forest-trees have attained their full proportions, and the undergrowing tangle of ferns, shrubs, and creepers exhibit the rank luxuriance of the lower country. Nature here offers a most strenuous opposition to the farmer, and the best efforts of the bushman barely succeed in redeeming the few isolated patches passed *en route*. Jackson's is the present terminus of the railway, and contains post-office, telegraph-station, school, the scattered houses, stores, and cots of the workmen employed on mining-, road-, and railway-works; it has two hotels, and is also the coach stage. It is likewise the place whence the miners, who are exploiting the gold-bearing reefs in the vicinity, obtain their supplies.

From here the traveller has the choice of two routes: either by rail to Stillwater Junction, and thence to Greymouth and Hokitika or Reefton, or by coach down the Teremakau Valley to Kumara, and thence north, or southward.

GREYMOUTH.

This borough is the principal shipping port of Westland, large quantities of coal and timber being annually exported. There is regular steamer communication with all parts of the colony, and the s.s. "Waipara" connects twice weekly with Hokitika. The visitor has here the choice of several comfortable hotels, which are all centrally situated.

HOKITIKA.

This town is prettily situated at the mouth of the Hokitika River, quite close to the sea-beach. It is mainly dependent on the adjacent sawmills, farming settlements, and gold-mines.

To Lake Mahinapua is the favourite trip of strangers and the townspeople, who usually make it a whole day's outing. Mahinapua Creek is a canal-like stream which winds for five miles through the dense forest, edged by charming aquatic plants, and reflecting the whole with marvellous accuracy. Mahinapua Lake is completely bush-girt, and has numberless corners of sylvan beauty.

Another trip is to Kanieri Lake, 11 miles, by a smooth, well-kept carriage-road, which passes through the mining township of Kanieri, and thence up the valley of the Kanieri River, of which beautiful peeps are obtained. This lake lies amongst mountains. The bush-clad hills sweep upward from the water's edge on either side, with the distant snow-topped range in the background, and this again is reflected in the placid waters. Almost equally fine is the prospect of the snows and intervening hills from Hans Islands on the left. By taking boat the coves and gulfs may be explored, and delightfully refreshing rambles can be taken to the Dorothy and other falls. There is a good hotel at the lake, and boats are always on hand.

MOUNT COOK DISTRICT.

[By T. N. Broderick, District Surveyor.]

The oldest and most generally accepted limitation of the "Southern Alps" is that given by Hochstetter, when he defines it as being that portion of the main range of the Middle Island of New Zealand commencing on the south side of the saddle between the Teremakau and Hurunui Rivers, on the boundary between the Provinces of Nelson and Canterbury, as far south as Haast's Pass, leading from Lake Wanaka to the West Coast, a distance of about 150 miles. He goes on to remark that "they form, in the direction from north-east to south-west, a chain of towering mountains which as to the height of their summits, and as to the size and extent of their snow-fields and glaciers, rival the Pennine and Rhaetian Alps." This range presents an almost impassable barrier between the east and west coasts of the Island, and reaches its greatest height in Mount Cook or Aorangi,* 12,349 ft. which has the proud distinction of being the highest mountain in Australasia. Here for scores of miles the main range maintains an average height of between 8,000 ft. and 9,000 ft., with only one depression or pass so low as 5,359 ft. All along, many fine peaks exceeding 10,000 ft. in altitude rear themselves above their fellows, especially in the vicinity of Mount Cook, where they are represented by such well-known names as Sefton, Stokes, Tasman, Haidinger, De la Bêche, Elie de Beaumont, &c. From the main chain subsidiary ranges branch out on both sides, those on the eastern in a southerly direction. For a considerable distance these differ but little in the boldness of their outline and height of their peaks from the parent stem. Two of them—the Huxley, branching from Mount Ward, and the Two-thumb, dividing off at Mount Tyndall—enclose between them most of the great hydrographical basin of the Waitaki River (three times the extent of any other river-basin in Canterbury or Westland), and to the upper

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* Mr. Broderick and others have previously mentioned that Mount Cook is *not* on the main range, but lies to the east of it. See report on Tasman Glacier, Annual Report Department of Lands and Survey, 1890–91, p. 39.

Mount Cook (the Hermitage in foreground).

[*To face page 554.*

portion of this basin northwards to the junction of the Ohau with the Tekapo River is generally given the name of the Mount Cook District. This in its own way is one of the most interesting parts of New Zealand. It exhibits most clearly the power of ice in modifying the features of a country; the effect of an ancient glacial period in juxtaposition with a present glaciation of much greater magnitude than could be supposed to exist in so temperate a climate: it contains large lakes, magnificent mountains, and glaciers exceeding in size those of the European Alps. Although the mountains are not so high as their brethren in Europe, what they lack in height is made up for by the perpetual snow-line in New Zealand being considerably lower; its altitude on the east side in the vicinity of Mount Cook being about 7,000 ft., and on the West Coast somewhat over 6,000 ft., while the glaciers are forced as low as 2,550 ft. on the east, and between 700 ft. and 800 ft. on the west. This extensive glaciation is accounted for by the fact that when the prevailing westerly wind, which is of equatorial origin and heavily charged with moisture, meets the obstruction of the mountains, it is driven up into colder regions, and parts with its moisture in the form of snow. The summer atmosphere not being sufficiently warm to melt the annual supply, the result is an accumulating surplus, which, by the pressure of its weight acting in a manner well understood, but by laws about which there has been considerable controversy, finds its way down the valleys in the form of glaciers, until it reaches the points at which the annual melting keeps pace with the advance, called the terminal faces.

The difference between the rainfall on the east and west sides of the range is remarkable. From statistics furnished by Sir James Hector, the average annual fall, taken for a period of eighteen years at Hokitika on the West Coast, was 117·9 in., while in Canterbury on the east it only averaged 25·5 in. for the thirty-three years during which records were kept. This great difference may explain one of the causes which have operated to force the glaciers on the west to so much lower a level than on the east, and to the same causes may be attributed the forest-covered western spurs and the comparatively bare eastern ones. In the district under consideration the forest proper is almost entirely confined to a few small patches of *Fagus*, but every variety of alpine and subalpine vegetation flourish, in favourable positions, even up to an altitude of 6,700 ft.

Amongst the flora perhaps the most typical plants are the several varieties of ranunculi, the white blossoms of one, the Mount Cook lily, being very delicate and beautiful; equally interesting from the Old World traditions that cling to it is the edelweiss, nearly similar in every respect to the Swiss plant.

In his geological map of the Provinces of Canterbury and Westland, the late Sir Julius von Haast has classed most of the mountain ranges in the Mount Cook District as belonging to what he calls the Mount Torlesse formation (Young Palæozoic). This classification includes the isolated hills on the Mackenzie Plains, such as the

Maryburn Range near Pukaki Lake, and Mount John near Tekapo, &c., the exception to this being a strip of country embracing the Sealey Range, in front of the Hermitage, and extending south-westerly between Lake Hawea and the Ahuriri River, which he has called the Waihao (or Middle Palæozoic). The coach road between Burke's Pass and Pukaki runs for nearly the whole distance through old morainic accumulations, but is nearly on the southern boundary of them, below which the plains consist of Post Pliocene alluvium.

Speaking of the arrangement of the rocks and position of the strata, Haast has noted the interesting fact that the main range is "a continuation of anticlinal arches and synclinal troughs; but instead of finding the mountains formed by the arches and the valleys by the troughs, exactly the reverse has taken place. Thus, to give one instance, whilst the enormous mass of Mount Cook occupies a synclinal trough, the broad valley of the Godley River runs along an anticlinal arch." Most of the glaciers occupy the position of an ancient anticlinal arch, or, in other words, what was the upper fold at the time the strata were bent from the horizontal.

Frost and ice have been great factors in forming the features of this district. The former breaks up the rocks, which then roll or are swept by avalanches on to the glaciers; these in their turn carry forward the *débris* or moraine, as it is called, and deposit it in the valleys. The glaciers near Mount Cook carry great loads of this moraine on the lower portion of their surfaces; they move forward at rates that change with the seasons and differ according to position. The officers of the Government Survey Department are instructed to note these rates of motion when such work can be done without interfering with their other duties, and much information has thus been gained. The details of this, however, would occupy too much space here, and it must be sufficient to remark that the Franz Josef Glacier moves at a much quicker rate than any on the east side of the range, and that the speed and volume of the Mueller, near The Hermitage, has been decreasing from year to year since 1889.

Native traditions state that the basin of the Waitaki was once occupied by a small tribe of Maoris, who had permanent camps at the Pukaki and Lake Ohau; these had, however, disappeared before the advent of Europeans into the district, and there were then no inland tribes. That there was some truth in the traditions has been proved by the discovery of Maori stone implements in several places, amongst others at Glentanner, about eight miles north of the head of Lake Pukaki. It is conjectured that the owners were contemporaneous with the now extinct moa, for bones of that bird were found overlying some adzes in an undisturbed stratum. The settlement of this part of the country by runholders (flockmasters) took place about 1857. In 1862 Dr. Haast made his explorations and geological classification, and, by the publication in 1879 of his "Geology of Canterbury and Westland," spread far and wide a knowledge of its attractions. In 1882 the Rev. Mr. Green did for alpine men what Haast had done for scientific, by bringing Swiss guides from Europe, climbing nearly to the top of Mount Cook, and afterwards publishing his book, "High Alps of New Zealand," in which he pointed out what a splendid field there was for alpine climbers. Many visitors and several mountaineering parties followed, and the fame of the scenery spread so much that in 1884 Mr. Huddlestone formed a company and built The Hermitage accommodation-house, which has since developed into the present large and comfortable hotel.

Chiefly owing to the exertions of Mr. Mannering, an enthusiastic mountaineer, who has recorded his own and Mr. Dixon's adventures in attempting to climb Mount Cook, in his book, "With Axe and Rope in the New Zealand Alps," an Alpine Club was formed in 1891. Up to 1896 the journal of this society published a record of what was being done in the New Zealand Alps on the lines of similar European clubs.

The labour of collecting material and editing the journal was cheerfully undertaken by Messrs. Mannering and Malcolm Ross, the latter another enthusiast, but, owing to the scattering of the most prominent Christchurch members, the work has been practically suspended since 1896.

There is now a large amount of material on hand, and it is hoped that before long the journal will again spring into life. The library, containing folios of exchanges from English, American, African, and Continental kindred societies, as well as some few standard works on mountaineering, is still in charge of Mr. Mannering, at Hastings, and is accessible to members and subscribers by correspondence.

In the journals of the above society, and in several interesting books published since those quoted above, may be found the history of many adventures, climbs, and expeditions, too numerous to mention here, but all of which have added to our knowledge of the country, and helped to open it up.

The New Zealand Government has assisted this work liberally, so that where there was formerly only a bullock-track to the Hermitage there is now a very fair road, with a good coach-service running regularly twice a week from the beginning of November to the end of April. The Hermitage has fulfilled Mr. Green's prediction of a "Grand Hotel, Mount Cook," much sooner than he anticipated. Tracks have been made to the most interesting places, a horse-track to Mr. Green's fifth camp on the Tasman Glacier, where now stands a comfortable two-roomed hut, and a similar one has been erected eight miles higher up the glacier, and only four miles and a half from the top of Hochstetter Dome, which has thus been brought within easy reach of tourists. The question will naturally be asked, What is the scenery like? Competent authorities have declared it equals anything of the same kind to be found elsewhere.

Mr. Green, speaking of the Tasman Glacier, says, "The glacier on which we stood, having an area almost twice as great as that of the great Aletsch, the largest glacier in Switzerland. . . . I tried vainly to recall the view in Switzerland on the great Aletsch Glacier in front of the Concordia hut to establish some standard for comparison. Then I tried the Gomer Glacier, on the way to Monte Rosa; but the present scene so completely asserted its own grandeur that we felt compelled to confess in that instant that it surpassed anything we had ever seen. My old idea was that the view from the summit of the Col d'Erin in Switzerland on a cloudless day was the most charming alpine scene I had ever beheld. Now, I felt rather bewildered on the subject, and can only conclude that comparison of such ineffable glories is worse than useless."

A table giving the comparative sizes of the Canterbury glaciers is to be found in the introductory pages of this work.

The following are some of the principal books and pamphlets dealing with the sounds, lakes, and alps of New Zealand. Many of the works mentioned are out of print, but nearly all can be seen in the public libraries of the colony:—

New Zealand Alpine Literature.

Blair, W. N.—"The Cold Lakes of New Zealand"; *Scottish Geographical Magazine*, vol. iii., No. 11, 1867.

Brunner, T.—"Explorations in the Middle Island of New Zealand"; *Journal of the Royal Geographical Society*, xx., 344, 1851.

Fitzgerald, A. E.—"Climbs in the New Zealand Alps." 1895.

Geikie, Sir Archibald.—"Tarawera Eruption"; *Nature*, xxxiv., 320–22; *Contemporary Review*, October, 1886, pp. 481–92.

Green, Rev. W. S , A.C.—"Fels- u. Gletscherspuren am Mount Cook in Neu-Seeland"; *Peterm. Mitt.*, 1883, p. 53.

Green, Rev. W. S., A.C.—"The High Alps of New Zealand"; Macmillan and Co., 1883. Contains an account of Ascent of Mount Cook.

Haast, Sir Julius von.—"Geology of Canterbury and Westland": *Times* Office, Christchurch, 1879. Contains geological maps, coloured and plain, and illustrations from photographs by E. P. Sealy; both printed at Vienna.

Haast, Sir Julius von.—"Head Waters of the Rakaia": *Press* Office, Christchurch, 1886. Contains twenty illustrations.

Haast, Sir Julius von.—"Notes on the Mountains and Glaciers of the Canterbury Province": *Journal of the Royal Geographical Society*, xxxiv., 87, 1864.

Haast, Sir Julius von.—"On the Physical Geography of New Zealand, principally in reference to the Southern Alps": *Proceedings of the Royal Society of Melbourne*, 1861.

Harper, P.—"Pioneering Work in the Alps of New Zealand." 1896.

Hector, Sir James.—"Geological Expedition to the West Coast of Otago"; *Otago Provincial Government Gazette*, 5th November, 1863. With sketch-map.

Hector, Sir James.—"Handbook of New Zealand"; Lyon and Blair, Wellington, 1879. With maps and plates.

Hingston, J.—"The New Zealand Sounds"; *Victorian Review*, viii., 622–38, September, 1883. Also pamphlet, "Seeing the Sounds," obtainable from the Union Steamship Co., Dunedin.

Hochstetter, F. von.—"Der Franz-Josef-Gletscher," Ausland, 1867; *Mittheil. der Georgr. Ges. zu Wien*, x., 57, 1866–67.

Hochstetter, F. von.—"New Zealand: its Physical Geography, Geology, and Natural History"; English edition, published by Williams and Norgate in 1868. Maps and illustrations.

Hutton, F. W.—"Report on the Tarawera Volcanic District"; Government Printer, Wellington, 1887.

Hutton, F. W.—"Sketch of the Geology of New Zealand"; abstract, in *Nature* xxxi., 305, 1885.

Lendenfeldt, R. von.—"Ascent of Hochstetter Dom"; *Canterbury Times*, 14th April, 1883; *Australasian*, 5th May, 1883.

Lendenfeldt, R. von.—"Der Tasman-Gletscher und seine Umrandung," Ergänzungsheft No. 75; zu *Petermann's Mittheilungen*, Gotha; Justus Perthes, 1884. Contains illustrations and a very fine map.

Mannering, G. E.—"With Axe and Rope in the New Zealand Alps"; Longmans, Green, and Co., 1891. Illustrated.

"Maoriland: An Illustrated Handbook of New Zealand"; published by the Union Steamship Company of New Zealand, 1884. Articles by Rev. R. Waddell, M.A.; A. Wilson, M.A.; and T. W. Whitson. Maps and illustrations.

McHutcheson, W.—"Camp-life in Fiordland: A Tale of the Sutherland Falls"; Government Printer, Wellington, 1892. With map and illustrations.

McKerrow, J.—"Reconnaissance Survey of the Lake Districts of Otago and Southland"; *Journal of the Royal Geographical Society*, xxiv., 56, 1864.

"New Zealand Alpine Journal"—Nos. 1 to 7; Whitcombe and Tombs, Christchurch. Various articles by members of the New Zealand Alpine Club.

"Report of the Survey Department of New Zealand"; Government Printer, Wellington. Recent numbers contain interesting articles by T. Mackenzie, M.H.R., T. N. Broderick, P. Harper, and others, regarding mountain exploration.

Ross, Malcolm.—"Aorangi: or, The Heart of the Southern Alps, New Zealand;" Government Printer, Wellington, 1892. With maps and illustrations.

Ross, Malcolm.—"Guide to the Lakes of Central Otago"; Government Printer, Wellington, 1889. Map and illustrations.

Ross, Malcolm.—"The West Coast Sounds of New Zealand: An Account of a Trip in the Union Company's s.s. 'Tarawera'"; J. Wilkie and Co., Dunedin, 1893. Numerous illustrations.

Smith, S. Percy.—"The Eruption of Tarawera"; Government Printer, Wellington, 1886.

Thomson, J. T.—"Survey of the Southern Districts of Otago"; *Journal of the Royal Geographical Society*, xxviii., 298.

Toula, Franz.—"Über die Südlichen von Neu-Seeland"; *D. Rundschau f. Geographie*, ii., 245 (1880).

HANMER THERMAL SPRINGS.

[From a paper by R. Bell, with analysis of waters (Hector) and directions for use (Dr. Little).]

Among the many pleasure and health resorts in the Middle Island of New Zealand the Hanmer Thermal Springs District is justly very popular. As a health-recruiting ground, pure and simple, it undoubtedly holds the first place. There are various reasons for this preference for Hanmer. It is situated beyond the Leslie Hills in the Nelson Province, nearly a hundred miles from the hurry and bustle of a large city, and twenty-four miles from a railway-station. The healing natural waters are, of course, the great attraction. Their fame has gone abroad, and year by year brings an ever-increasing number of visitors. The climate must also be credited with its fair share of the attractiveness of the district. Although situated in latitude 42° 30′ S., the heat, even in midsummer, is not oppressive. The height of the springs above the sea-level, 1,220 ft., and the distance from the coast, thirty-two miles, insures a dry heat during the day, with cool mornings and evenings. The air is bracing and salubrious, and allows feats of walking and hill-climbing to be performed with less fatigue than on the lower levels and in the more humid atmosphere near the coast.

Besides attracting the physically weak and the mere seeker after pleasure, Hanmer is yearly growing in favour with the fagged brain-worker, the nerve-worn man of affairs, and the mechanic who "needs a spell." To them Hanmer is a veritable Elysium, where business is not thought of. The world with its distracting cares and life-shortening ways is shut out.

JOURNEY TO HANMER.

To get to Hanmer the train is taken from Christchurch to Culverden, the northern terminus at present of the Hurunui–Bluff railway system, a distance of sixty-nine miles. Leaving Christchurch at 7.35 a.m., Culverden is reached at 12.10 p.m. The railway runs through some of the most fertile country in the Middle Island. Along the route are the Townships of Kaiapoi, Rangiora, Amberley, and Waikari.

Culverden is the centre of the fine pastoral country which extends to the neighbourhood of Blenheim. At its yards the largest sheep sale in New Zealand took place in March of 1898, when 250,000 sheep were brought under the hammer. Having lunched here, the passenger transfers himself and baggage to the coach, and the remaining portion of the journey is performed in three hours and a half. The coach route runs through the picturesque valley of the Waiau. The road winds in and out among the hills until crossing the river by a fine iron bridge the plains are unexpectedly reached. This level plateau, which stands at an altitude of 1,220 ft., is about ten miles long by four miles broad, and is surrounded on all sides by mountains, some of which rise over 5,000 ft. high. About the middle of the plains are the hot springs. These are of an alkaline and saline character, with a strong escape of sulphuretted hydrogen, and they possess undoubted curative properties for certain diseases.

ACCOMMODATION, ETC., AT THE SPRINGS.

The springs are situated in an area of 13 acres, enclosed by live fences and trees, and laid out in pleasant walks and lawns, bordered by flowers, all neatly kept. A croquet-lawn and bowling-green have also been laid down. The hotel-accommodation for visitors is ample. The Government Sanatorium is capable of accommodating sixteen persons. So far the Sanatorium has been chiefly used by patients more or less affected by the diseases which the springs give relief to or cure.

Mr. Hood, of the Jollie's Pass Hotel, has also recently erected "The Lodge," a commodious two-story house within a few chains of the bathing-grounds. The Jollie's Pass Hotel (licensed) is situated two miles and a half from the baths, and was originally built by the Government as an accommodation-house for travellers crossing the Pass, the great highway between Nelson and Canterbury. Mrs.

Lahmert has removed her Temperance Hotel from Jack's Pass to near the springs, and it is well spoken of.

During the 1898–99 season fully fifteen hundred people came, taking twelve thousand baths; of these about eight thousand were taken in the private baths, and four thousand in the ladies' and gentlemen's baths.

The bath-houses contain in all twenty private baths, with massage rooms and Turkish baths supplied with hot and cold mineral-water. The water is brought in pipes from the adjacent springs. The temperature ranges from 86° to 97° Fahr., and may be increased at will to 114°. Besides the private baths, there are a ladies' swimming-pool and a gentlemen's swimming-pool, both surrounded by high iron fences. The all-round depth is 5 ft. The temperature of the pool is 85° Fahr., and is so comfortable that, once in, the bather hardly cares to come out again. The charge for the private baths is 1s. each or 8s. for twelve, while for the pool 6d. a bath is the price. Situated in the grounds is a spring where visitors may not only assuage their thirst, but get relief for stomach, liver, and kidney troubles as well. The water is warm, and when it is remembered that it contains chloride of sodium and sulphurous aicd, it will be easily understood that it does not taste like nectar. Despite the nausea which almost overwhelms them at every draught, many are only too pleased to testify to the beneficial effect of the water.

The gases may also be inhaled by the patient, and this, like the drinking of the waters, is anything but a pleasant experience. Most people do it from a sense of benefit only, and many who would inhale the fumes cannot, they are so overpowering.

A comfortable reading-room has been provided in connection with the baths, on the tables of which may be found works descriptive of the scenery, resources, and history of New Zealand, also a few of the best monthlies, &c.

Natural gas will shortly be used to light and heat the baths and sanatorium.

A post- and telegraph-office supplies facilities for communicating with the outside world.

Masseuse Available.

In premises fitted up for her use, Miss Edith Cook, certificated masseuse, practises her art. She has great experience, and those who have been under her hands testify to her skill as a manipulator. In fact, it has come to be recognised that the bathing and the massage treatment go hand in hand towards affecting cures in cases of muscular ailments.

Medical Attendance Procurable.

Dr. Little, of Culverden, visits the springs once a week during the season, and his services are at the disposal of the visitors free of charge. If urgently required he can be communicated with by telephone at any moment.

TOURIST SEASON, CHARGES, ETC.

The tourist season extends from the 1st November to the 1st May, and during those months coaches from Culverden to Hanmer run daily up and down. During the rest of the year coaches only run on Tuesday and Saturday from Culverden, and from Hanmer on Monday and Thursday. The baths are open throughout the year; but the massage treatment can only be obtained during the summer months. The Government Sanatorium and the other hotels, of course, provide accommodation all the year round.

Apart from the cost of getting there—the railway issue through return first-class tickets from Christchurch for £1 10s., and from Dunedin, £4 2s. 6d.—Hanmer, unlike many other pleasure resorts, is not an expensive place to stay at. There are no "extras," in the shape of boating and driving excursions, as in the cold lakes district, and no guide-fees, as in the alpine district. The only way one can make extra expense is to indulge in a superfluity of baths, and that is hardly likely. The cuticle would not stand it, even if the pocket could.

To those capable of Alpine work there are Mount Perceval (5,335 ft.) and Mount Captain (6,600 ft.). On a clear day, from either of these peaks, the Port Hills, Lake Ellesmere, and the long sweep of the Canterbury Plains to the ocean, can be seen. Jollie's Pass to the Saddle affords a fair morning's walk, so also does Jack's Pass, and there are many other short excursions which may be made by those whom the baths have restored to vigour.

There is good fishing in the Clarence, the Waiau, the Hanmer, and their tributary streams; while for dog and gun there is such game as hares, rabbits, wild ducks, and swamp-hens.

The analysis of water taken from No. 1 Spring at Hanmer Plains, made at the Colonial Museum in 1891, gave these results:—

Chloride of sodium	62·09
Chloride of potassium	0·15
Chloride of lithium	Trace
Iodide of magnesium	Trace
Carbonate of lime	0·55
Carbonate of magnesia	1·77
Carbonate of iron	0·05
Sulphate of soda	7·48
Carbonate of soda	2·66
Phosphate of alumina	Trace
Silica	2·63
Total grains per gallon ...	77·38
Gas—Sulphuretted hydrogen	2·19

An analysis made ten years ago, prior to the earthquake which occurred in 1888, by Professor Bickerton, of Christchurch, is interesting from the fact that it includes an examination of the sediment and organic matter contained in the water. The sample was taken from Spring No. 8 before it was incorporated with No. 1. It is as follows :—

Sediment—Silica and free sulphur		1·400
Nitrogen as free ammonia	0·092	
" as albuminoid ammonia	0·048	
" as nitric acid	0·047	
Total nitrogen	——	0·187
Sulphuretted hydrogen, free		3·430
Sulphate of lime	9·940	
" potash	1·960	
" soda	0·400	
Bicarbonate "	7·770	
Chloride "	56·230	
Bicarbonate of magnesia	0·640	
Total fixed matter	——	76·940
Total grains per gallon		81·957

The total amounts of fixed salts in the two analyses correspond very closely. The sulphates and carbonates in either case are so small that the fact of their varying in the two analyses is a matter of no importance. The fact of the discovery of traces of iodine and lithium in the recent analysis is interesting.

Directions for using the Baths at Hanmer Sanatorium.

[By Charles T. W. Little, M.B., Ch.B., Visiting Medical Officer.]

The temperature of the Hanmer Baths can be regulated from cold up to 114° Fahr. Patients are cautioned against using the baths at first at too high a temperature, and against remaining too long in them. The caretaker in charge will be glad to give information on this point. A cold shower is provided with each bath. Invalids and those unaccustomed to the shower must use it with caution. After leaving the bath, patients should cool gradually, and be careful to avoid exposure to cold.

The water of the springs is laxative and diuretic, and may at first nauseate. It should be drunk in moderation, not more than one or two glasses daily for a commencement.

During their stay at Hanmer, visitors are recommended to freely take exercise in proportion to their strength. The Sanatorium affords facilities for this. The walk from the accommodation-houses to the springs will benefit those in fair health. Those suffering from feeble circulation, and those convalescent from acute diseases, must be specially careful with regard to the temperature of their bath and the duration of their bath, and should first ask information from the caretaker.

Patients suffering from bronchial catarrh will find inhalation of the steam beneficial, but must carefully avoid cold after leaving the bath. For local affections of a chronic rheumatic nature, &c.,

patients will find the hot douche useful, but must persist in its use. Massage both during and after the bath is here very useful.

Experience has shown that the benefit derived in skin affections varies much with individual cases. Dry and scaly skin affections generally benefit by prolonged immersion. Irritable and moist skin affections, on the other hand, benefit more by a short immersion. Should such affections be aggravated by the treatment, the baths should be discontinued for a time at least.

The benefit derived by gouty patients has been found to vary with the case. Patients suffering from derangements of the alimentary system (constipation, torpid liver, &c.), asthma, whooping-cough, nervous debility, and insomnia have testified to receiving benefit from a stay at Hanmer. Giddiness, bleeding from the nose, chilliness, nervous depression, increased irritability of the skin, are indications either that the baths do not suit, or that they have been too freely used and should be discontinued for a day or two at least.

Visitors in fair health will find a plunge in the swimming-pool very enjoyable. Visitors to the Sanatorium finding no appreciable benefit from the first few baths have often discontinued them altogether. Provided that the treatment is not aggravating the complaint, such action does not give the springs a fair trial. In chronic affections a long course of treatment is often required, and the immediate benefit is not seen.

THE THERMAL-SPRINGS DISTRICT, AND THE GOVERNMENT SANATORIUM AT ROTORUA.

By the late Dr. Ginders.

Climate of Rotorua.

The geographical position of the North Island of New Zealand will naturally suggest something of the character of its inland climate at an elevation of 1,000 ft. Rotorua is some forty miles from the coast. Its elevation is 990 ft. above the sea-level. The atmosphere is drier and more bracing than on the coast—in winter considerably colder, and in summer perhaps somewhat hotter, but of a dry pleasant heat, free from the moist oppressiveness which characterizes the summer heat of Auckland and other coast towns. The mean temperature of spring is 53°, of summer 66°, of autumn 57°, and of winter 45°. The relative moisture of the air for the four seasons (taking complete saturation at 100°) is—for spring, 74°; for summer, 66°; for autumn, 67°; and for winter, 74°. The steam which rises so abundantly and perpetually all over the district no doubt adds considerably to the moisture of the atmosphere. This was clearly shown in the month of June, 1886, when the great eruption of Tarawera took place. The relative moisture for that month was 10° in excess of the average, owing to the immense amount of vapour caused by the eruption. The rainfall for the year is about 60 in., and the number of days on which rain falls about 140. Auckland has 18 in. less rain, and thirteen more rainy days. The daily range of temperature is greatest in the summer and least in the winter. This obtains throughout the whole of New Zealand, and is, indeed, one of the most charming features of our climate. No matter how hot a summer's day may be, the nights are invariably cool. The mean daily range of temperature for spring is 21°, for summer 28°, for autumn 23°, and for winter 20°.

These annual means, it must be remembered, are based on observations extending over ten years only, and consequently have no more than a relative value. For example, the rainfall for the six years ending with the year 1891 averaged 50 in. per annum, but in 1892 it was 67 in., and in 1893—an exceptionally wet year—it reached 93 in.; so that for these averages to have an absolute value they must be based on observations extending over a far longer period. The annual mean temperature for 1894 was 55°, and the rainfall 55·22 in.

The annual means for the year ending 31st March, 1898, stand thus: Mean barometer, 29·41°; mean maximum shade temperature, 65·2°; mean minimum shade temperature, 44·6°; annual mean temperature, 54·6°; mean daily range, 20·2°; mean solar radiation, 112·9°; mean terrestrial radiation, 39·6°; mean relative moisture (saturation = 100), 77°; total rainfall in inches, 70·63; total days on which rain fell, 167; mean amount of cloud (0, clear sky; 10, overcast), 6·0.

The most agreeable months of the year for an invalid to visit Rotorua are February, March, and April; the least pleasant are August, September, and October; but, as there is ample boarding accommodation close to the baths, the invalid is virtually independent of the weather. A climate better adapted to the necessities of the class of patients visiting this health-resort could not be desired. They are, as a rule, persons in fairly vigorous health, in whom it is desirable to maintain the normal power of adaptation and resistance to climatic changes. A climate in which the same conditions prevailed for long periods of the year would fail to secure this end; but one in which the various factors of temperature, moisture, light, electricity, wind, and atmospheric pressure are subject to moderate variations is, in every way, the one to be desired.

It is most desirable that invalids visiting Rotorua should be well informed as to the character of our climate. I have found that considerable misapprehension exists on this point, particularly amongst our visitors from Otago and Southland, their impression being that Rotorua is a very warm place, and that in summer they have to bring only the lightest possible clothing. This is a great mistake, as will be understood at once when I say that in February and March it is not uncommon to find in twenty-four hours a thermometric range of 100 degrees between the solar and terrestrial radiation temperatures. Our visitors, therefore, should provide themselves with both light and heavy clothing, no matter at what season of the year they may arrive.

AREA OF THERMAL-SPRINGS DISTRICT.

The Thermal-springs District of New Zealand comprises an area of upwards of 600,000 acres, or close on 1,000 square miles. The length of the district is some fifty miles, with an average breadth of twenty miles. Its altitude varies from 1,000 ft. to 2,000 ft. above the sea-level.

PHYSICAL FEATURES.

The most striking physical features of this region are the extensive pumice-plains, intersected in various directions by high ranges of igneous formation, which are relieved here and there by enormous trachytic cones. Forests of extraordinary luxuriance and beauty clothe the mountains and border the extensive plateaux, while hot lakes, boiling geysers, and thermal springs are dotted far and wide over the country. The Thermal-springs District, however, as defined on the maps, by no means embraces the whole volcanic and hydrothermal activity of the island. Although the volcanic slopes of Ruapehu and Tongariro bound this region on the south, hot springs are found here and there for fully 250 miles beyond its western boundary—in fact, as far north as the Bay of Islands. Within the district it is no exaggeration to say that hundreds of hot springs exist, to say nothing of mud-volcanoes, solfataras, and fumaroles.

VARIETIES OF MINERAL WATERS.

These springs are of the most varied chemical character, and of every degree of temperature from 60° to 212°. Numbers have yet to be submitted to analysis. Those which have been examined in the laboratory of the Geological Survey Department in Wellington are divided by Sir James Hector into five classes: (1) *Saline*, containing chiefly chloride of sodium; (2) *alkaline*, containing carbonates and bicarbonates of soda and potash; (3) *alkaline-siliceous*, containing much silicic acid, but changing rapidly on exposure to the atmosphere, and becoming alkaline; (4) *hepatic*, or *sulphurous*, characterized by the presence of sulphuretted hydrogen and sulphurous acid; and (5) *acidic*, containing an excess of sulphuric or hydrochloric acid, or both. In addition to these we have saline waters, containing iodine, cold acidulous chalybeates, and saline acidulous chalybeates. These, however, are in situations at present inaccessible to the invalid, or, if not out of reach, at least destitute of the conveniences and comforts essential to the sick, but they are no doubt destined in the near future to attain a high medical reputation.

THE ROTORUA SANATORIUM: NAMES OF THE PRINCIPAL BATHS.

The Government of New Zealand has very wisely chosen the southern shore of Lake Rotorua as the basis of operations for opening-up this wonderful district. Here are grouped together numerous examples of the five classes of springs I have mentioned, and here the Government fixed their first sanatorium and bathing establishment. The sanatorium reserve at Rotorua comprises an area of some 50 acres, bounded on the north and east by the lake, and on the west and south by the Township of Rotorua. Fifteen or sixteen years ago this was a howling wilderness, covered with manuka scrub, and diversified only by clouds of steam rising from the various hot springs. Here the adventurous invalid of that day had to pitch his tent, and be satisfied with a hole in the ground for a bath; and if the spring he wished to use happened to be too hot for his purpose he probably had to dig the hole for himself, and regulate the supply and temperature of the water to the best of his hydraulic ability. In many instances he immortalised himself by giving his name to the spring—a name still retained. Thus we have "Cameron's Bath," "McHugh's Bath," "Mackenzie's Bath," and "The Priest's Bath." Other springs have received their names from some real or imaginary quality. Thus we have "Madame Rachel," "The Pain-killer," "The Coffee-pot," and "The Blue Bath." Now this scene of desolation is completely transformed. Walks and drives planted with evergreen trees traverse it from end to end, fountains—amongst which are the artificial intermittent geysers constructed by the late Mr. C. Malfroy—and flower-gardens delight the eye, and commodious buildings for the entertainment of invalids are springing up on every side. The principal of these are the Sanatorium Hospital, the medical residence, the Priest's Pavilion, the Rachel Pavilion, the Ladies' Swimming-bath, the Blue Swimming-bath (to which is attached the sulphur-vapour bath), the Postmaster Bath houses, Brent's boarding-house, the Grand Hotel, the Palace Hotel, and many other residences and houses where apartments are let to visitors.

The twelve private Rachel Baths, used chiefly in the treatment of skin affections, have been fully occupied. The number of cases of skin-disease resorting to Rotorua for treatment is rapidly increasing: due, no doubt, to the remarkable cures of eczema effected here, and to the resulting change in the opinion of many New Zealand medical men as to the propriety of constant bathing for this disease. The concrete coolers cover an area of 2,250 square feet, are 2 ft. deep, and capable of containing 27,500 gallons of water, so that the whole of the outflow from the Rachel Spring is conserved.

The ladies' swimming-bath is 48 ft. by 24 ft., from 3 ft. to 4 ft. deep, and capable of accommodating twenty bathers at one time. Its capacity is 25,200 gallons, and its temperature will be maintained at about 96°. It is provided with dressing-rooms and shower-baths

The new sulphur baths, known as the "Postmaster," are situated on the western shore of the lake, at a distance of about half a mile from the Priest and Rachel Pavilions, and are approached by a good carriage-drive. They consist of two large public *piscinæ* (each 24 ft. by 12 ft.) and four smaller ones (each 12 ft. by 10 ft.), one of the former and two of the latter being appropriated to each sex. There are twenty dressing-rooms, ten in each department. It has been found necessary to leave the baths open to the air, as the gases arising from them are apt to produce vertigo and fainting unless they are exposed to very free ventilation. In the summer weather they are sheltered from the sun by canvas awnings. Verandahs have been built opposite the dressing-boxes. The temperature of the spring supplying these baths is 114° Fahr., and the outflow varies from six to seven thousand gallons per hour. The water rises through a fissure in the rock of considerable length, and an efficient method of regulating the temperature was devised by our late ingenious engineer, Mr. Malfroy. It consists of a series of sluices, one of which is connected with each bath; if all the sluices are closed the water cools by natural radiation of heat, and if any sluice is opened the bath fed by it rises in temperature.

These baths are increasing rapidly in popularity as curative agents in all forms of rheumatism, gout, and neuralgias. There still are a few cases of fainting and involuntary muscular twitching, without loss of consciousness, among men using these baths. The women appear to enjoy a singular immunity from these troubles, due, most likely, to the gases arising from their baths being either less in quantity or different in quality. The baths are complete in their appointments. An abundant supply of cold water from the town main has been introduced; cold showers and warm douches have been constructed; also two comfortable waiting-rooms, each containing five couches. There are male and female attendants.

The rules posted up in these baths for the guidance of bathers are as follows: "In order that these baths may be used in comfort and safety, bathers should observe the following rules: (1) Sit quietly in the water, so as to avoid any unnecessary disengagement of gases; (2) Do not sit immediately over any spot where gases are rising through the water; (3) If any breeze is blowing, sit with the back to windward, that the gases may be blown from and not towards the bather; (4) Never remain in the water longer than fifteen minutes, and in the event of any disagreeable sensation coming on, leave the bath at once."

The Hospital.

The hospital is designed to accommodate twenty-one patients—twelve males and nine females. The stipulations made by the Government with regard to admission are that the patient shall be able to show that his case is one likely to be benefited by the use of the baths, and that he is unable to pay the usual hotel or boarding-house charges.

The Regulations and Tariff.

The following is a copy of the regulations under which patients are admitted to the institution:—

1. Applications for admission of persons shall be addressed to the Resident Medical Officer at the Sanatorium, Rotorua.

2. No person shall be admitted (unless in accordance with Regulations 5, 6, and 7) except on the recommendation of the Hospital or Charitable Aid Board of the district to which he belongs, or of the Trustees of the benevolent society or hospital (if separate institutions) of the town in which he lives.

3. The charge for maintenance and treatment is £1 1s. a week.

4. The Board or Trustees, in making such recommendation, shall guarantee the cost of such patient, shall send him or her at their own charge to Rotorua, be responsible for his or her return-passage, and provide a sufficient supply of clothing. They shall also furnish a report on the case by a duly-qualified medical practitioner, in order that it may be seen whether the case is one that is likely to profit by treatment at the Sanatorium.

5. Members of any duly-registered friendly society may be admitted, on the recommendation of the lodge to which they belong, on the same terms as patients recommended by a Hospital or Charitable Aid Board, and Regulations 3 and 4 shall be read as applying to them in all respects: Provided that not more than three such persons shall be resident at the Sanatorium at any one time, and that all the hospital beds are not required by patients admitted under Regulation 2.

6. When all the beds are not occupied by patients admitted under Regulations 2 and 5, the Resident Medical Officer may at his discretion admit persons, being *bonâ fide* hospital cases, who have undertaken to pay £1 10s. a week for maintenance and treatment.

7. When all the beds are not occupied by patients admitted under Regulations 2, 5, and 6, persons may be admitted on the following conditions:—

(1.) That the Resident Medical Officer has certified that each such person is likely to be benefited by treatment at the Sanatorium.

(2.) That the expenses to and from Rotorua are provided by each such person, together with a sufficient supply of clothing.

(3.) That not more than four such persons shall be resident at the Sanatorium at one time.

8. The stay of each patient is limited to three months, but the Resident Medical Officer can, at his discretion, extend the period to six months.

This means, in brief, that patients sent by the Charitable Aid Boards of the country are to be admitted at all times at one guinea per week; that three beds may be occupied by members of registered friendly societies on the same terms; that not more than four free patients shall be resident at the same time; and that if all the beds are not occupied by the three classes of patients enumerated, the medical officer may, at his discretion, admit suitable cases paying for themselves at the rate of £1 10s. per week. Such patients, if they wish to avoid disappointment, should not leave their homes until they have communicated with the resident medical officer, and been assured by him that their cases are suitable, and that they will be admitted on arrival.

It should be distinctly understood that Hospital Trustees, or Charitable Aid Boards, or Friendly Societies recommending patients to this institution are held responsible for payment in case such patients are unable or fail to pay for themselves.

It cannot be too widely known that there is no private accommodation in this institution: whatever the regulations under which the patients are admitted, they are on equal terms; they take their meals together in the same hall; the women have their own sitting-room, and a dormitory containing nine beds; and the men have their sitting-room, and a dormitory containing twelve beds. Patients are admitted for three months, and if, in the opinion of the medical superintendent, a second period of three months is desirable, it is granted; but in all cases six months is the extreme limit.

The great object of this institution, as at present constituted, is to enable the Charitable Aid Boards of the country to send up for treatment a class of patients who would not otherwise be able to avail themselves of the springs, while at the same time in no way interfering with the private enterprise of hotel and boarding-house proprietors.

ANALYSIS AND ACTION OF THE WATERS.

Patients who frequent our springs are always anxious to see the analysis of the waters in which they bathe, and are usually under the impression that they absorb into their systems the entire list of salts enumerated. This is an error. The body cannot absorb any salts from an aqueous solution. If the water, or any portion of it, is allowed to dry on the skin, a minute quantity of the constituent solids, of course, remains, which, through the friction of the clothing, becomes incorporated with the fatty elements of the integument, and is eventually absorbed. After a course of sulphur baths the underclothing is redolent of sulphur for some time after leaving the springs, and silver carried in the pockets becomes blackened, showing that a considerable amount of sulphur has been absorbed in the manner described. The shipwrecked sailor adrift in a boat finds his thirst relieved for a time by saturating his shirt with sea-water; if he absorbed the salt his suffering would be only intensified, but the wet shirt, by temporarily checking the transpiration and evaporation of moisture from his body, affords him relief. The direct influence of hot mineral water used for bathing—apart from the effect of temperature—is twofold, according to its chemical character: it either excites and stimulates the nervous and vascular elements of the skin, as in the case of acid sulphur waters; or it exercises a soothing and emollient effect, as in the case of alkaline siliceous waters. We should never lose sight of the fact that the skin is the most important emunctory of the body; and that, as a means of maintaining its normal functional activity, bathing, well-advised and regulated, is the most efficient agent we can employ; and that in skin diseases especially our cures are brought about not by any absorption of fixed salts contained in the water, but by the prolonged maceration of the cuticle, causing the ready removal of the *débris* of dead and diseased cells, and their gradual replacement by cells of a more healthy character, due to the employment of a suitable regimen and the influence of a highly vitalising climatic environment.

PROPERTIES OF THE PRINCIPAL BATH SPRINGS AT ROTORUA.

The following springs are those which have the most valuable properties, and whose therapeutic action is best known:—

1. *Te Pupunitanga*, or "*The Priest's Bath*," at Rotorua, only a few feet from the lake's edge; the water is strongly acidic and aluminous, depositing flocculent sulphur on the bed and sides of the

bath; reaction, acid. It is considered the finest and most curative bath in the southern hemisphere. Analysis (in grains per gallon): Sulphate of soda, 19·24 gr.; sulphate of potash, traces; sulphate of lime, 7·41 gr.; sulphate of magnesia, 3·03 gr.; sulphate of alumina, 21·67 gr.; sulphate of iron, 1·24 gr.; sulphuric acid, 22·12 gr.; hydrochloric acid, 3·65 gr.; silica, 18·41 gr.—total, 96·77 gr.; also, sulphuretted hydrogen, 2·98 gr.; and carbonic acid gas, 2·16 gr. Temperature: From 98° Fahr. to 106° Fahr.; average, 99° Fahr. Special indications: Gout, dyspepsia, sciatica, skin diseases, disorders of the liver, sexual impotence, cold feet, amenorrhœa, dropsy, and all forms of rheumatism.

No spring in the district has attained a higher reputation, or proved itself more generally useful, than that known as the Priest's Bath. The variation in temperature is due to the rise and fall of the lake and the direction of the wind. When the lake is high and the wind blowing towards the baths the conditions are favourable to a high temperature, and *vice versâ*, the cold water of the lake affording a more efficient barrier to the escape of heat than the open pumice-gravel of which the shore is composed. A patient emerging from his bath looks like a boiled lobster, and I regard this determination of blood to the skin as a most important therapeutic factor: the vascular and nervous apparatus of the skin is powerfully stimulated by it, and internal congestions are relieved. Our alkaline waters, on the other hand, which contain the chlorides and silicates of the alkalies, have a soothing and emollient effect on the skin, and are of great value in eczema, and other cutaneous ailments. The water of the Priest's Spring is brilliantly clear when undisturbed, and pale-green in colour. A faint odour of sulphuretted hydrogen pervades the neighbourhood, which gas, together with sulphurous acid, is copiously evolved. Since the eruption of Tarawera this offensive odour has been much modified, owing, probably, to an increased evolution of sulphurous-acid gas at that time. Fortunately for the nasal organs and general comfort of the bathers, these gases effect a mutual decomposition, resulting in the formation of sulphur and water, thus—$2H_2S+SO_2=3S+2H_2O$; which means that two parts of sulphuretted hydrogen, combining with one part of sulphurous acid, form three parts of sulphur and two of water. Wherever steam charged with these gases is able to penetrate, sulphur is deposited. This is the origin of all the sulphur in the district. It permeates readily the siliceous sinter rock, forming beautiful needle-like crystals of sulphur in the interspaces. Sulphur being thus constantly transformed from the gaseous to the solid state in the water of this spring, it is very possible that, coming into contact with the skin in this nascent and impalpable form, its therapeutic power may be considerably enhanced: there can be no doubt about its absorption, for our patients tell us that their underclothing is redolent of sulphur for weeks after returning home. The Priest's bathing-pavilion is a building 74 ft. long by 44 ft. wide, having a superficial area of 3,256 square feet. It is divided into male and female departments. Each department comprises two public *piscinæ*, 16 ft. by 12 ft., with two private baths (each 6 ft. by 6 ft.) for special cases, lounging-rooms, and comfortable dressing-rooms. Each bath is provided with a cold fresh-water shower, and douches either hot or tepid, thus materially enhancing the hydropathic efficiency of this remarkable water.

It is rather unfortunate that these baths are at their best in the winter, when they maintain a more even temperature and a more convenient depth. During the summer months the rapid changes of temperature they undergo give us a good deal of trouble and inconvenience.

2. *Whangapipiro*, or "*Madame Rachel's Bath*," at Rotorua.—Analysis (in grains per gallon): Chlorine of sodium, 69·43 gr.; chloride of potassium, 3·41 gr.; chloride of lithium, traces; sulphate of soda, 11·80 gr.; silicate of soda, 18·21 gr.; silicate of lime, 4·24 gr.; silicate of magnesia, 1·09 gr.; iron and alumina oxides, 2·41 gr.; silica, 5·87 gr.: total, 116·46 gr. in one gallon; also carbonic-acid gas, 3·79 gr. Temperature: Formerly 174° Fahr., but rose to 194° Fahr. after eruption in June, 1886. Special indications: Diseases of the skin, especially psoriasis. By internal administration (whereby an increase in the elimination of urea and uric acid is produced) in rheumatism, gout, and certain forms of dyspepsia.

The "Rachel" bathing-pavilion adjoins Te Pupunitanga, or "The Priest's Bath." Here we have a water diametrically opposite in character to the last described—an alkaline siliceous water having a temperature at its source of 180°. This source is a cauldron of enormous depth, situated some 200 yards from the bathing-pavilion, and yielding 50,000 gallons daily. We have a simple system of cooling by which the water may be used at any desired temperature. Here also is a separate department for either sex, each containing a public *piscina* 16 ft. square, four private baths, a lounging- or waiting-room kept at a constant temperature of 70° by hot-water pipes, and dressing-rooms. The reaction of the water is alkaline, and it contains a small amount of sulphuretted hydrogen. The delicious sense of *bien-être* produced by bathing in this water, with the soft satiny feeling it communicates to the skin, must be felt to be appreciated. It is useful in all forms of skin-disease—indeed, in eczema it may be considered a specific if continued long enough, together with a suitable regimen. I frequently recommend the internal use of this water. Its taste is not unpleasant, and its action is mildly antilithic. Waters containing silicates are said to be useful in the uric-acid diathesis, and I have certainly found it suit gouty patients admirably.

3. *Oruawhata*, a hot pool within the Sanatorium grounds, supplying the warm swimming bath, was originally a favourite Maori cooking and bathing place. Fifty years ago it was rendered *tapu* for a long period by the fact that a Maori boy, when flying his kite and running backwards, fell bodily into it and was scalded to death. However, it was used for both cooking and bathing as lately as

1880. At the time of the Tarawera eruption in 1886 it was a single irregularly-shaped pool, having two powerful springs at its northern end. These our late engineer, Mr. C. Malfroy, isolated from the surrounding water and converted into artificial intermittent geysers, thus forming not only one of the most interesting objects in the Sanatorium grounds, but a work of eminent practical utility, as we are able to convey the water from the geysers to the swimming bath at an almost boiling temperature, instead of leaving it exposed to a large cooling area, as was the case formerly. This hot basin—some 60 ft. long by 30 ft. wide—is now built round with concrete and protected by a substantial iron railing. The water is saline in character, with silicates. Analysis (in grains per gallon): Chloride of sodium, 60·44 gr.; chloride of magnesium, 1·04 gr.; sulphate of lime, 5·48 gr.; silicate of magnesia, 0·32 gr.; silicate of soda, 8·38 gr.; silicate of iron oxide, 1·42 gr.; silica, 14·20 gr.: total 91·28 gr. in one gallon. Sulphuretted hydrogen, 5·52 gr.; carbonic acid, 2·21 gr. Temperature: 140° Fahr. Special indications: Almost identical with those of the foregoing spring (Whangapipiro).

The Blue Bath is a warm swimming bath, 62 ft. long by 24 ft. wide. It is built of stone and concrete, with a smooth surface of Portland cement; has a depth of from 4 ft. 6 in. to 3 ft., and contains about 30,000 gallons of water, maintained at a temperature of 98°. This is the popular pleasure-bath of the Sanatorium, in which our rheumatic invalids are able to take exercise without undue fatigue. It was completed in 1885, and opened by Mr. George Augustus Sala. While excavating this bath the workmen struck upon a remarkable sulphur-cavern, its roof and sides thickly coated with brilliant acicular crystals of sulphur, and at its base a hot-spring yielding steam so strongly impregnated with sulphur-gases as to be quite irrespirable. This we have conducted to the surface, and employ as a sulphur-vapour bath, diluting it as occasion requires with steam of a milder character. In sciatica, and all forms of rheumatism, this is one of our most popular and efficacious remedies.

4. *Cameron's Bath* (known as "*Laughing-gas Bath*"), within the Rotorua Sanatorium Reserve, a quarter-mile from the bath-pavilion, on the shores of Lake Rotorua, at a point called Te Kauwhanga. It is a muddy pool 30 ft. in diameter, with a constant discharge of gas (sulphuretted hydrogen, with sulphurous acid), which, when inhaled, causes faintness and great excitement of the respiratory and vascular functions. The pool has no outflow; the water is a dirty chocolate colour, hepatic, feebly saline, and has a persistent acid reaction and offensive odour. Bathing in the spring itself is to be deprecated. Analysis (in grains per gallon): Sulphate of soda, 44·54 gr.; chloride of potassium, 1·67 gr.; chloride of sodium, 12·04 gr.; chloride of calcium, 5·22 gr.; chloride of magnesium, 1·28 gr.; chloride of aluminium, 0·62 gr.; silica, 9·22 gr.; hydrochloric acid, 5·92 gr.: total, 80·51 gr. in one gallon. Sulphuretted hydrogen, 4·42 gr. Temperature: 109° Fahr. to 115° Fahr.

5. *The Painkiller Bath*, situated at Te Kauwhanga, resembles

the above water (No. 4), but is a little more saline and hepatic; it is one of the most valuable sulphurous springs in the reserve. The water has a distinct acid reaction, an offensive odour, and deposits a brownish sediment on being boiled. This spring has great curative properties, and two baths with sheltered dressing-accommodation have been built in connection with it. This spring is now so rarely used that the accommodation has been allowed to fall into decay. It underwent some modification in its composition at the time of the eruption, in 1886. Analysis: Chloride of sodium, 46·42 gr.; chloride of potassium, 1·71 gr.; chloride of calcium, 2·66 gr.; chloride of magnesium, 1·47 gr.; chloride of iron and aluminium, 4·22 gr.; sulphate of soda, 29·14 gr; hydrochloric acid, 6·84 gr.; silica, 18·02 gr.: total, 110·48 gr. in one gallon. Sulphuretted hydrogen, 4·84 gr. Temperature: 204° Fahr.

6. *The Coffee-pot*, also situated at Te Kauwhanga, a small mud spring, 10ft. in diameter; the water is thick, brown, and muddy, covered with an oily slime, in fact, of a most uninviting appearance; it has a persistent acid reaction and an offensive odour; hepatic and feebly saline. Analysis: Silica. 13·86 gr.; sulphate of soda, 23·71 gr.; chloride of potassium, 0·77 gr.; chloride of aluminium, 1·46 gr.; chloride of calcium, 2·04 gr.; chloride of magnesium, 1·62 gr.; chloride of iron, 1·47 gr.; hydrochloric acid, 7·66 gr.; sulphuric acid, 7·60 gr.: total, 60·19 gr. in one gallon. Sulphuretted hydrogen, 3·19 gr. Temperature: 80° to 100° Fahr. Special indications of the last three baths (Nos. 4, 5, and 6): Chronic rheumatism and gout, chronic rheumatoid arthritis, cutaneous diseases.

7. *Hinemaru* ("*Stonewall Jackson*" or "*McHugh's Bath*"), situated in the Rotorua Sanatorium Reserve. The water is of a yellowish colour, of a saline character, with silicates; reaction, alkaline. Analysis: Chloride of sodium, 93·46 gr.; chloride of potassium, 4·69 gr.; chloride of lithium, traces; sulphate of soda, 2·76 gr.; mono-silicate of soda, 6·41 gr.; silicate of lime, 2·89 gr.; silicate of magnesia, 1·02 gr.; iron and aluminium oxides, 2·10 gr.; silica, 8·29 gr.: total, 121·62 gr. in one gallon. Temperature: From 98° Fahr to 118° Fahr. Special indications: Cutaneous diseases, rheumatism; if filtered, suitable for internal administration in atonic dyspepsia and uratic diathesis (dose, one tumbler thrice daily between meals).

The above analyses were made in 1881 and 1882, and a re-analysis was made in 1893 by the Government Analyst, who reports as follows: "These results show that some changes have taken place in the constitution of several of these waters since their analysis in 1881 and 1882—that is, prior to the volcanic eruption of Tarawera. The 'Painkiller' Spring has evidently acquired quite a new character, being an alkaline in place of an acidic water. The Hinemaru Spring (McHugh's Bath) contains a little less chloride of sodium than formerly, and more silica, while Rachel's Spring contains a little less of the alkaline sulphate. These facts are interesting, but with the exception of the total change of character of the 'Painkiller' water, nothing has been elicited to show that any of them have changed so much as to seriously affect them for the medical purposes to which they have hitherto been applied." This should reassure those who may have been led astray by a report—diligently circulated by certain interested individuals—that our springs are weaker and less efficacious than formerly. The "Painkiller" Spring is gradually assuming its original character and composition. It is true that there is no spring in the district so erratic in its temperature and density as the Priest's Bath, but, fortunately, temperature and density are not its most important therapeutic factors. The analysis of 1893, as compared with that of 1881, shows that there has been a falling-off in certain of its negative ingredients, but the curative properties of the water are maintained by an actual increase in two, at least, of its more positive constituents—free hydrochloric acid, and sulphuretted hydrogen. No one has a better opportunity of judging of the physiological and curative effects of this water than I, who, for many years, have had the advantage of daily observation; and my deliberately expressed opinion is that the water of the Priest's Bath is as powerful a skin stimulant, and as valuable a curative agent, as it was twelve years ago. It would be well if the last-four-mentioned springs were called *springs*, and not *baths*, as the latter term is apt to be misleading to visitors: indeed it would be well if a block plan of the Sanatorium Reserve were to be bound in with this publication, giving the name and position of each spring.

ANALYSES OF FIVE NEW SPRINGS.

The baths have been constructed at the Postmaster as already mentioned, and the following are analyses of its waters and of four other springs which have lately been brought into notice, owing to the overcrowding of the Priest's and Rachel Baths. No doubt they will shortly be brought under the control of the Government authorities, as part of the Sanatorium Reserve, and suitable bathing accommodation built. They are as follows:—

(1.) *Waikirihou, or "The Vaux Spring," Supplying the New Sulphur Baths, commonly known as the "Postmaster."*

	Grains per Gallon
Sulphate of soda	32·87
" potash	1·24
" lime	4·93
" magnesia	1·83
" alumina	33·22
Iron oxides	4·42
Sulphuric acid (free)	30·32
Hydrochloric acid (free)	6·14
Silica	17·61
	132·58
Sulphuretted hydrogen	3·02

This is the strongest acidic water in the district, and most valuable as a local application to rheumatic or injured joints, but, for immersion of the whole body, requiring the greatest care and caution. Its action is that of a modified mustard-plaster, producing a strong determination of blood to the surface, the redness remaining much longer than that caused by the Priest's Bath. The cause of this will be seen on comparing the amount of free acid in the two waters. It is not a water to be trifled with; and patients with weak hearts or delicate skins will do well to take advice before using it.

The latest discovery with regard to the therapeutic power of this water is, that it abolishes the craving for alcohol. If I had heard this from one or two individuals only I might have disregarded it, but hearing it commented on almost daily, I have taken the trouble to look up the cases. Two of these were very aggravated examples of inebriety, whose acquaintance I first made in the Court-house, where I found myself under the painful necessity of fining each of them the usual 5s. and costs. They assure me that they find themselves new men since bathing in these sulphur baths, and have lost all taste and desire for liquor of every kind. Three other patients of mine, to whom I found it necessary to advise total abstinence, corroborate this testimony, stating that they have felt no craving for stimulants since using the baths. They are very enthusiastic in the matter, and think that an asylum for inebriates should be established here at once. No doubt the craving for alcohol is kept up by a congested state of the mucous membrane of the stomach, so that the *modus operandi* of these waters is not far to seek; the congestion is relieved by the powerful determination of blood to the skin. In like manner, hæmorrhoids are cured by our acid waters, from the relief afforded to a congested liver. We do not for a moment affirm that bathing in these waters will engender a distaste for alcoholic stimulants, but there is no doubt that the craving for drink is materially modified by such bathing, and any man sincerely desirous of abandoning the habit will find great assistance from the use of the baths. An institution combining the use of these waters with the *Hagey* system of treatment would probably be of great value.

(2.) *Toko, or "The Postmaster's Bath."*

	Grains per Gallon.
Sulphate of soda ...	45·09
" potash	0·41
" lime ...	2·45
" magnesia	0·30
" alumina	1·34
Iron oxides	0·71
Sulphuric acid (free)	17·86
Hydrochloric acid (free)	7·40
Silica ...	10·11
	85·67
Sulphuretted hydrogen	5·69

This is a strongly acidic water, fulfilling all the therapeutic indications of the Priest's Spring.

This spring has died out since the excavations were made for the new sulphur baths.

(3.) *Matuatonga, or "Corlett's Bath."*

	Grains per Gallon.
Chloride of sodium with a little potassium	66·44
„ calcium	6·72
„ magnesium	0·31
Sulphate of lime	10·32
Carbonate of lime	0·21
Alumina	Trace
Soda silicate with a little carbonate	29·27
	113·27
Sulphuretted hydrogen	2·21

This water is very similar to the Rachel Spring, and calculated to fulfil similar therapeutic indications. Being situated some thirty or forty yards from the new sulphur baths, and at an elevation of about 8 ft. above them, the water of this spring may be easily led into the baths. This would give us as complete an arrangement as is at present afforded by the Priest's and Rachel Baths; and, as regards showers and douches, the necessary power will be readily obtainable from the cold-water main, which is within reasonable distance.

(4.) *Waikupapapa, or "The Saddler's Bath."*

	Grains per Gallon.
Sulphate of soda	33·18
„ potash	0·26
„ lime	2·44
„ magnesia	0·24
„ alumina	0·32
Iron oxides	Trace
Sulphuric acid (free)	4·29
Hydrochloric acid (free)	7·49
Silica	8·23
	56·45
Sulphuretted hydrogen	3·61

This is an acidic water, similar to that of the Postmaster's, but less stimulating, and consequently more suitable for delicate skins.

(5.) *Ngaruapuia, or "The Gemini Bath."*

	Grains per Gallon.
Sulphate of soda	29·80
„ potash	0·64
„ lime	6·87
„ magnesia	0·31
„ alumina	...
Iron oxides	Trace
Sulphuric acid (free)	3·11
Hydrochloric acid (free)	6·76
Silica	12·01
	59·50
Sulphuretted hydrogen	Traces.

This is a valuable acidic water, less astringent and stimulating than the foregoing (the Saddler's), from the fact of its containing less free acid and more silica, and is, in many cases of skin disease, a most desirable intermediate water between the soothing alkaline waters and the more powerful waters of the acid type.

THE WHAKAREWAREWA BATHS.

At Whakarewarewa, two miles from Rotorua, there are two springs which have a well-merited reputation.

1. *Turikore*, or the "*Spout Bath*."—This water is in great repute among the Maoris for the cure of cutaneous diseases, rheumatism, lumbago, sciatica, and kidney complaints. It is of a sulphurous character, and has a faintly-acid reaction, which changes to alkaline on boiling the water. Analysis: Silicate of soda, 16·32 gr.; silicate of lime, 1·61 gr.; silicate of magnesia, 1·14 gr.; silicate of iron, 0·39 gr.; sulphate of soda, 13·47 gr.; chloride of potassium, 1·24 gr.; chloride of sodium, 53·61 gr.; phosphate of alumina, traces: total, 87·78 gr. in one gallon. Temperature: 96° Fahr. to 120° Fahr. Special indications: Cutaneous diseases, lumbago, chronic rheumatism, local palsy of muscles.

2. *Koroteoteo*, or the "*Oil Bath*."—This water is alkaline and slightly caustic. Analysis: Mono-silicate of soda, 2·08 gr.; mono-silicate of lime, 3·16 gr.; mono-silicate of magnesia, 0·76 gr.; mono-silicate of iron, 0·85 gr.; sulphate of soda, 7·49 gr.; chloride of potassium, 1·46 gr.; chloride of sodium, 66·34 gr.; chloride of lithium, traces: total, 82·14 gr. in one gallon. Temperature, 212° Fahr. Special indications: Cutaneous diseases.

WOULD A MEDICAL GUIDE-BOOK TO THE THERMAL SPRINGS OF ROTORUA BE OF ANY PRACTICAL VALUE?

This is an important question, since the general public would be almost unanimous in answering it in the affirmative, perhaps adding as a rider, "provided it contained full and explicit directions for self-treatment." The medical profession, on the other hand, would be equally unanimous on the negative side. If we could tabulate diseases, and attach to each its appropriate remedy or remedies, the science of medicine would be simplified indeed; but, unfortunately, this cannot be done. Every case requires to be dealt with on its own merits. One of the first lessons a medical student learns is, "Treat your patient first and his disease afterwards." An old Latin adage says, "*Quot homines, tot sententiæ*"—So many men, so many minds. It would be equally true to say, "*Quot homines, tot corpora*"—So many men, so many bodies—as no two are identical physically and mentally. When a man applies to a life-assurance society for an insurance on his life, such society requires the fullest information as to his family and personal antecedents, his physique, the condition of his internal organs, his occupation and habits of life, before they feel competent to judge of the risk they run in accepting his proposal. This is precisely the information a physician requires before he feels competent to form a correct diagnosis or prognosis, or to decide what plan of treatment is most likely to prove successful; and yet there are thousands of people who believe in such books as "Every man his own Doctor" and "Every man his own Lawyer," It is a matter of everyday experience to find the nervous, excitable man, who reads medical books, imagining himself the victim of every ill to which flesh is heir; and, no doubt, the man who thirsts for cheap legal knowledge finds his litigious proclivities accentuated. The legitimate practitioners of the two professions are, in the end, the persons chiefly benefited by such works.

Perhaps nothing will better emphasize the foregoing remarks or prove more generally interesting than a short sketch of the position held by rheumatism in the medical mind of to-day. A recent writer on the subject remarks: "Rheumatism is a systemic disease, of which the articular lesions are the most frequent and conspicuous manifestations, but which implicates many other structures and tissues, assuming widely different forms in different cases." This is well seen in the great differences which rheumatism presents in childhood, adolescence, and old age. Again: "'Rheumatism' and 'rheumatic' are terms very loosely applied. If they refer to one definite set of phenomena, and depend on a single morbid process, the nature of such process cannot, as yet, be spoken of with any degree of certainty. A great variety of disorders are popularly styled 'rheumatic,' which have no real connection, either with each other or with the more typical forms of the disease. The word is a convenient designation for any ache or pain which does not readily fall under any other category." The frequency with which peripheral neuritis is spoken of as muscular rheumatism is a case in point.

Of the numerous theories in explanation of the pathology of rheumatism, the following are the chief: (1.) That the heart is the starting-point, and inflammation of its lining membrane (endocarditis) the principal event on which all other lesions depend. (2.) That it is due to some disturbance of the central nervous system, caused either by surface-chill, or the action of a chemical or organized poison upon the great nerve centres. (3.) That it is caused by an excess of lactic acid which is supposed to play a part analogous to uric acid in gout. (4.) That it is an infective disease, due to the presence of certain micro-organisms in the system, or toxic matters generated by them. This theory is rapidly gaining ground, and is, perhaps, more generally accepted to-day than any other. The facts on which the assumption rests are these: that certain micro-organisms have been found in the blood and urine of patients suffering from acute articular rheumatism, and that their abundance or scarcity is determined by the stage, or degree of severity, of the attack; also, that it is the only hypothesis that will account for acute rheumatism appearing as an epidemic, as it does in some localities. "Not one of these theories," says Dr. Garrod, "can claim to be clearly established, and no one of them has met with universal acceptance. The problem of the pathology of rheumatism still remains unsolved."

CASES SUITABLE FOR TREATMENT.

The selection of cases suitable for treatment at Rotorua is a most important matter. I am aware that there is a strong tendency, both with physician and patient, to try anything as a *dernier ressort.* It is a serious matter, however, to put a patient to the trouble and expense, and possibly pain, of making a long and weary journey, to rob him of the comforts of home and the society of his friends, without at least some reasonable hope that his labour will not be thrown away.

The two most important questions to be answered before deciding to send a case to Rotorua are: (1) Has the patient sufficient strength to bear the journey? and (2) is the case one likely to benefit by the treatment? With regard to the first question, it must be remembered that the long thirty-four miles coaching journey over a bad road is a thing of the past. The railway now gives through communication with Auckland within a little over ten hours. Still, a ten hours' railway-journey will not be accomplished by an invalid without some fatigue, and possibly increase of pain; but, if there be sufficient vitality to render such inconvenience a matter of mere temporary concern only, it is no insurmountable barrier. Nor need the partial or even total loss of the patient's locomotive power prevent his coming. We have many instances on record of patients who on arrival required the aid of crutches, or had actually to be carried to the bath, and yet went away enjoying the full use of their limbs. In considering the second question, medical men will not need to be reminded that where profound organic structural change exists very little benefit can be expected, so that considerable discrimination must be exercised in selecting cases of paralysis for treatment. Where nerve-elements are extensively destroyed hot water has no regenerating power that I am aware of. The same may be said of osteo-arthritis or chronic rheumatic arthritis, with structural change and great deformity of the joints. Such cases may improve in general health, gain weight, and lose pain, but there the improvement ends. Our treatment is contra-indicated in phthisis as long as active destructive change is going on in the lungs. Certain chronic *poitrinaires*, however, pay us periodical visits with advantage.

PARAPLEGIA CURED.

Primary functional paralysis, in which there is reason to believe that the nerve-centres have undergone no organic change—such paralysis, for example, as may be induced by depressing morbid influences, as malaria, influenza, sexual excesses, mental or physical fatigue, exposure to wet and cold, alcoholism, or hysteria—are likely to benefit by treatment at Rotorua.

Several cases in point are given in the New Zealand Year-book for 1893. One illustrative case will be sufficient to quote here.

H. C., a bushman, aged twenty-three, had become completely paraplegic, presumably from exposure to wet and cold. He had been for many months dependent on a Charitable Aid Board, which sent him to Rotorua. For three weeks he was carried to his bath, at the end of which time he was able to stand alone. At the end of five weeks he could walk with two sticks, and ride on horseback. In three months he was as well as he had ever been in his life.

GOUT, RHEUMATISM, AND SKIN DISEASES.

No more favourable field for the observation and study of these allied diseases could be wished for than that afforded by Rotorua, nor is there any place more bountifully favoured by Nature for their successful treatment. These diseases furnish fully 75 per cent. of the cases resorting to Rotorua for treatment. With regard to gout, several prominent physicians of the French school are of opinion that sulphur baths are distinctly injurious, and should be rigidly proscribed in gout. They affirm that the formation of uric acid is increased by them, and the solvent power of the blood for that acid diminished. We are aware that certain medicines have the latter effect, notably, the mineral acids, and, perhaps, strychnia and arsenic; but during an experience of thirteen years we have never found that our sulphur baths have had other than a beneficial effect in the disease. Two remarkable examples of this may be interesting.

H. W., aged fifty, has been a martyr to gout for twenty years. During the season of 1897–98 he spent two months at Rotorua. His condition was so critical that his friends scarcely expected him to return home. He was extremely anæmic and debilitated, could not stand or even sit upright; the mind was enfeebled, his conversation inconsequent and childish; wept on the slightest emotional excitement. It was quite two weeks before he was strong enough to take the baths with safety; he then had one Priest bath daily, greatly to his advantage: his strength, appetite, and mental condition improved, he could stand and take a few faltering steps. After this he was able to take two Priest baths daily: the improvement continued, and on leaving he was able to walk with the help of a stick fairly well. The only medicine he took was salicine, with dialysed iron. After his arrival home his condition was reported as improved.

A. B., aged forty, a professor of music from South Australia, has been for some years a sufferer from gout. He has the usual deformity of finger-joints, with chalky concretions. Occasionally the immobility of the fingers has been so great that he has been unable to practise his profession. He has paid Rotorua an annual visit for some years past. A very few of our sulphur baths always set his fingers at liberty, and enabled him to continue his music-teaching. The result is that he has left South Australia and settled himself permanently in Auckland, in order to be within easy reach of Rotorua.

We cannot afford to ignore results like these in favour of any theoretical objection; so that I think we must continue to prescribe our sulphur baths in gout, the French medical dictum to the contrary notwithstanding.

In all forms of rheumatism and rheumatoid arthritis we have much success, especially where arthritic degeneration is not too pronounced. Hot acidic sulphur-baths at a temperature not exceeding 104°, or sulphur-vapour up to 115°, taken twice daily for a carefully regulated time, according to individual tolerance—which we find to vary greatly—forms our routine treatment. These waters redden the skin, and cause some tingling sensation for an hour or two. Occasionally some irritation of the skin occurs, which is readily allayed by a few warm alkaline showers or douches. In those numerous and well-known cases of chronic hip-rheumatism, often due to injury, we find nothing so efficacious as the hot douche. The beneficial result is due partly to the quality of the water, and largely to its mechanical action: fortunately, our arrangements are so complete that we are able to vary the temperature and percussive power of the douche at will. We are able to quote several cases of cure even where a considerable amount of fibrous anchylosis has existed. If the rheumatic patient progresses favourably under the bath-treatment alone, neither medicines nor electricity are employed, but if after a few weeks his progress is not satisfactory we find galvano-faradism a valuable adjunct. Usually thirty cells are put into circuit with a faradic machine, and the double current applied in the labile manner to the parts affected for fifteen minutes daily. We find this answers better than either current alone. In cases of muscular atrophy faradism is resorted to from the commencement. Massage is also occasionally of use.

Great Success in Cases of Skin-disease.

Perhaps there is no class of diseases in which we meet with more uniform success than those affecting the skin. The solid and gaseous constituents of the waters are no doubt important; but I have more confidence in the influence of change, and all that it implies in its effect on both mind and body, combined with the prolonged maceration of the cuticle, and the constant exposure of the skin to air and light which frequent bathing entails. General eczema, which may have resisted every form of treatment for years, is usually cured in a period varying from six to thirteen weeks if the patient is willing to submit himself to rigorous medical discipline. The same may be said of psoriasis,—at least, as far as its disappearance for a longer or shorter period is concerned. It is rare indeed to see psoriasis completely eradicated. For ringworm and the impetiginous eczema of children the water of the Priest's Spring is a specific. In sycosis epilation is necessary, after which our alkaline waters complete the cure.

We had great success during the year 1897 in the treatment of skin diseases. Several cases of general eczema have been completely cured in the Sanatorium.

Pemphigus is one of the rarer forms of skin disease, and, in its severer manifestations, not infrequently proves fatal. It is characterised by an eruption of large vesicles—technically termed "bullæ"—which vary in size from that of a sixpence to a hen's egg. These vesicles are distended with serum, and require to be punctured and evacuated. M. J., a girl aged nineteen, came to the Rotorua Sanatorium suffering from this disease. Fortunately, it was not the graver form of the ailment, but a more benign manifestation well described by Kaposi (Hebra's successor in Vienna) as "*Pemphigus vulgaris benignus.*" The irritation was severe, and interfered greatly with her rest at night; however, she had not taken more than six baths when all irritation ceased; at the end of a week the vesicating process ceased also, and her skin was simply marked with purplish-red patches corresponding in area with the bases of the bullæ: these faded to a pale-brown and then disappeared. In three weeks she was virtually well. I kept her a fortnight longer and then sent her home, which was close to the sea. To my surprise, in less than a week, I received a letter from her father stating that the whole thing had reappeared and she was as bad as ever. We readmitted her to the Sanatorium, put her under the same treatment, and on this occasion the curative process went on even more rapidly than before. In three weeks she was again apparently well, but instead of sending her back to the sea, she was advised to go forty miles further inland, which she did. After residing there three months she wrote to say that she remained perfectly well.

I could quote numerous instances in which sea-air has greatly aggravated skin affections attended with violent itching, particularly in stormy weather, when the atmosphere is laden with saline particles.

In these cases we do not pin our faith exclusively to the baths, to the exclusion of all internal medication. However inoperative such treatment may have been at home, we find that, in conjunction with the new environment, rest, change of air and scene, with the baths, such treatment is of the greatest use. Patients frequently decline to take medicine, saying that they have exhausted the Pharmacopœia, and have come to Rotorua to try the baths as a last resource, but have little faith in them. Such cases are discouraging. It is difficult to engraft an improved physical state on a hopeless mental condition.

During the season of 1897 three rare forms of skin disease presented themselves at Rotorua for treatment. They are known respectively as Diffuse Fibroma Molluscum, Scleroderma, and Viteligo. Of course, bath treatment is utterly useless in such cases.

NEURALGIA.

Patients suffering from sciatica are a numerous class with us, most of them presenting a very chronic history. When the disease is not distinctly associated with the gouty or rheumatic diathesis, is not of long standing, and has been caused by exposure to cold, it is very quickly cured. A few baths relieve the pain, and there is rarely any stiffness or weakness remaining. Chronic cases are not so easily dealt with—they require great patience and perseverance on the part of both physician and patient. Our routine treatment consists of hot baths, sulphur-vapour, the douche, and galvanism. After six or eight weeks it often happens that nothing remains to remind the patient of his old enemy beyond some slight weakness or soreness of the limb, and I usually advise him to try a week's sea-bathing on his way home. In order to accomplish this he should arrive in Rotorua not earlier than September or later than February. We have had some good results in the treatment of cervicó-brachial neuralgia. An interesting case is detailed in the Year-book of 1893.

A man about fifty years of age presented himself some time ago suffering from a spasmodic neuralgia of the facial nerve. Any movement of the jaws, as in eating, yawning, putting out the tongue, and even sometimes in speaking, brought on a paroxysm, lasting, fortunately, only a few seconds, but evidently agonizing; in fact, his life was a burden to him. After four weeks' persistent bathing, with iron and arsenic internally (which no doubt he had taken before) he left cured.

A CASE OF SCIATICA.

A. B., a man forty-five years of age, was admitted to the Sanatorium, suffering from severe sciatica. Prior to his arrival he had been unable to lie down for three weeks,—slept in a chair when he could, or with his head on his arms at a table. In a few days he was able to lie down and rest fairly well, with the assistance of 15 grains of antikamnia at bed-time. He took the Priest and Postmaster baths alternately, and left us at the end of three weeks without a trace of his ailment remaining.

PERIPHERAL NEURITIS CURED.

The subject of this is, or rather was, Dr. King of Auckland. He is very glad, no doubt, to be able to speak of his ailment in the past tense. I have his permission to publish the following letter; indeed, he is most anxious that his case should receive the fullest publicity. The letter explains itself and needs little or no comment of mine:—

DEAR SIR,— Auckland, 5th May, 1897.

I was sorry to have missed you while at Rotorua, although, to tell you the truth, I was solely on a health-seeking mission, little expecting to receive the benefit I did, and therefore not much inclined for company. My trouble was peripheral neuritis, caused perhaps by the diphtheric poison acting on a nervous system already exhausted by over-work and worry. Without going fully into details, I may say that I began to fail in January last, and had to leave my practice on the 16th of that month, almost unable to do anything for myself. Mrs. King and I went south to Dunedin, Wakatipu, Invercargill, Christchurch, and Hanmer Springs, where, after ten days' bathing, I seemed to receive a little benefit from the use of baths at a temperature of 110° to 114°, but not less. I then returned to Auckland very little the better, after seven weeks, having to be helped in and out of the cab on Saturday, 6th March. On the following Monday I left for Rotorua, where I took chiefly hot Rachel and Postmaster baths, with a Priest bath occasionally, but this I could not get hot enough. The Postmaster I took up to 111° and could almost feel it do me good. The Rachel I took up to 118°, and I attribute my recovery mainly to that. I cannot speak in too great praise of Rotorua, and I think such a place ought to be the sanatorium of the world. Of all the baths I took, I certainly like the Postmaster best. I shall be perfectly willing at any time to bear out all I have said. I will gladly give you my assistance for a few days at any time should you be needing a change. I intend to put my case before the Medical Association, and shall endeavour to publish it in the *Medical Journal*, so that you will hear further on the matter. My last word is: I thank God, from my heart, for Rotorua.

Thanking you for this opportunity of saying a word, believe me

Yours very faithfully,

T. W. KING.

This evidence, coming from a medical man, is of double value, since it leaves no doubt as to the correctness of the diagnosis, or the efficacy of the treatment adopted. In the interest of those who may be inclined to take baths at the high temperature described by Dr. King, I think it right to state that that gentleman did not immerse his whole body in such baths, but only the affected limbs.

CURATIVE EFFECTS OF MINERAL WATERS.

To enumerate every ailment in which our thermal springs have proved useful would prolong this paper indefinitely. Suffice it to say that in many cases their healing power has been discovered accidentally. Many women bathing for rheumatism have found themselves cured of chronic metritis and leucorrhœa, and as a result of such cures have proved fruitful after years of sterility. Congestion of the liver, biliary catarrh, with jaundice and hæmorrhoids, have been cured by the acid sulphur waters, which also prove useful as a topical application in ozæna and ulcerated throat. This class of water also tends to reduce plethora and corpulency without prostration, insures healthy action of the skin, and relieves torpor of the bowels.

ULCERATED THROAT.

The mention of ulcerated throat reminds me of two most interesting cases which presented themselves recently from the island of New Caledonia. In this island, it appears, chronic laryngitis is common.

The first case was that of a French gentleman engaged in business, whose throat ailment was of long standing. He remained with us a few weeks, used the water of the Priest's Spring as a gargle, and as a wet compress to the throat at night, and bathed in the same water twice daily. He left perfectly cured.

The second case was a much more serious one. The patient was a French Roman Catholic priest. He attributed his ailment to excessive use of his voice in preaching, teaching, and singing. He had constant cough, his voice was hoarse and scarcely audible, and there was occasional slight hæmorrhage from the laryngeal ulcers. After pursuing for four weeks the treatment described in the foregoing case, he left very much improved, but by no means well. To my surprise, in a few weeks after his departure he wrote to our late Resident Engineer, Mr. Malfroy, stating that to his great delight he found himself perfectly cured, and that he could use his voice in preaching and singing as well as ever he did in his life.

PERMANENT BENEFITS REALISED.

During past years my correspondence with patients proposing to come to Rotorua, and with those who have left after a longer or shorter experience of our bath treatment, has been considerable. No fact has struck me more forcibly than this: that patients who have left greatly benefited, but not cured, almost invariably write to say that, after being a short time at home, they realise the benefit they have derived, and, in most cases, they find themselves permanently cured.

It appears that, whatever it is that our patients take into their systems by absorption or inhalation, and whatever may be the influence of change of climate, scene, and occupation, of relaxation and rest, time is required for assimilation, and the true benefit is only realised some time after their return to their former surroundings.

I am glad to find that this experience is not peculiar to New Zealand, but is quite common with those who frequent the spas of Europe.

BALNEOLOGICAL APPLIANCES STILL NECESSARY.

Although during the past year much has been done to perfect the bathing arrangements at Rotorua, several useful appliances are still wanting: (1) Moveable hose douches, so arranged as to control at will temperature, pressure, and volume; (2) hot-air baths; (3) a cold needle bath; and (4) the Tallerman-Sheffield apparatus for local hot-air treatment. This apparatus consists of a copper chamber, usually cylindrical, and made in various shapes and sizes, so that any limb, or part of a limb, can be treated separately. The air in the chamber is kept dry, and its temperature can be raised or lowered at will. The treatment is applied for a period of from fifty minutes to an hour, and is gradually raised from about 150° to 220°, or even 300°. The immediate effects are relief of pain and stiffness. After the treatment the whole body is briskly rubbed down and the limb massaged with oil. Dr. Sibley has found the treatment of great service in rheumatoid arthritis which has reached a stage in which other treatments are likely to be of but little avail. He has employed this treatment for two years, and knows of no unsatisfactory result following it, although many of the cases treated have been by no means promising. Many of the patients were old and debilitated people, and in some cases cardiac and other visceral complications were present. One of the most valuable effects is the sleep which usually follows the treatment, particularly in cases in which pain has precluded any rest for long periods.

MASSAGE.

That department of medicine which relates to the discovery and application of remedies to the cure of diseases being known as Therapeutics, it follows that we may appropriately speak of the application of thermo-mineral waters to the cure of diseases as balneo-therapeutics, of massage as masso-therapeutics, and of galvanism as galvano-therapeutics. Now, any one writing in this day on balneo-therapeutics could scarcely afford to ignore the subsidiary agencies of galvanism and massage. I say subsidiary advisedly; since both find their truest value and highest use as adjuncts to bath treatment, bathing diminishing the resistance of the skin to the galvanic current, and by its emollient influence greatly assisting the manipulations of the *masseur*. We hear a good deal now-a-days about massage; there is scarcely a spa in Europe where it is not practiced. Aix les Bains appears to be its headquarters. Some of those who desire to be considered professors of the art are too apt to represent it as a panacea for all human ills, and so mislead the unwary. It is desirable, therefore, that the general public should get some definite idea of its real worth. The following is what a lecturer on therapeutics at the Westminster Hospital, and examiner in *Materia Medica* to the Royal College of Physicians of London, says about it: "By masso-therapeutics I mean the scientific aspect of the subject: massage, that is, simply as a therapeutic agent, and not massage as a means of earning a living, or as a modified form of hotel-keeping. It must be admitted that many people regard massage and all that appertains to it with a good deal of suspicion, and not without reason. The difficulty is, not that massage fails to receive the credit to which it is entitled, but that it is employed in a number of cases for which it is unsuited. No discrimination is exercised, but its use is advocated for all sorts of chronic ailments. This is a grave mistake, and greatly to be deplored. The work is too often carried on by people who know little or nothing about it, and have not mastered even its most elementary details. They regard it as a special system of treatment, whereas, in reality, it is only one of a number of therapeutic agents at the disposal of every physician. They practice without knowledge, and often do incalculable harm. It is not pleasant to hear of an aneurism or an ulcer in the stomach being ruptured by the efforts of a too zealous rubber; and such mishaps are not unfrequent. The so-called *masseur* or *masseuse*, who goes about the country armed with a 'certificate,' which is simply a receipt for money paid, is an abomination, and has been the means of bringing a legitimate mode of treatment into disrepute."

The *masseurs* who have hitherto visited Rotorua for a few months in the summer have not proved altogether satisfactory. They are birds of passage, here to-day and gone to-morrow. We have, however, a lady well versed in this business, who for several years has been a constant resident in Rotorua. She is highly spoken of by those who have employed her, and her services are always available.

MAGNITUDE OF RESOURCES.

There are two questions which are perpetually propounded by visitors to Rotorua. The first is usually put in this way: "How is it that the Government of New Zealand does not advertise these springs? Little or nothing is known of them in Australia, or America, or England [or wherever the questioner happens to hail from]. I should not have been here, but that I heard, quite casually, that a friend of mine had been cured here; and if I am cured I shall be able to send you dozens of patients." My usual reply is: "We believe that good medical work will advertise itself, and your remarks confirm the assertion. It is evident you believe in your own advertising power, and so do we. It will be quite time enough to spend money in advertising when we find that our bathing-accommodation is in excess of the demand made upon it; at present it is barely equal thereto. At the same time our resources are practically unlimited. We have one spring in Ohinemutu estimated to discharge not less than a million gallons daily, which means that it is capable of supplying 10,000 baths daily of 100 gallons each. This is at present running to waste. At Whakarewarewa there is a spring almost, if not quite, its equal. Should the time ever come when these springs are not equal to the demand made upon them we have the Waiotapu Valley to fall back upon, which is surely destined in the future to be the centre of the Thermal-springs District of New Zealand. Immense as our resources are at Rotorua, they sink into insignificance when compared with those of the Waiotapu Valley."

COMPARISON OF THE ROTORUA SPRINGS WITH THOSE OF EUROPE.

The second question usually takes this form: "How do your springs compare with those of Europe?" This is a much larger and more interesting subject. The first fact that strikes the inquirer is this: that cold mineral spas, of high therapeutic value as internal remedies, are abundant in Europe, whereas they are rare in New Zealand. In the Rotorua district our mineral waters are all hot, and more suitable for bathing than for internal administration. It does not necessarily follow that because a water is hot it is unfit for internal use. The water of our Rachel Spring is an admirable dietetic-water for gouty and dyspeptic patients, used either hot or cold; and a spring has recently been discovered at the head of Lake Roto-ehu containing, in spite of its high temperature, a large amount of carbonic-acid gas, which holds in solution a good deal of carbonate of iron. After keeping a sample of this water securely bottled for about three weeks, I sent it to a chemical friend for examination. His report was as follows: "On opening the bottle of 'iron-water' from Roto-ehu I found a good deal of free carbonic-acid gas, the water effervescing briskly like ordinary soda-water; it contained what was equivalent to 172 cubic inches per gallon. Of course this estimate is not to be relied on, as it would only represent a part of the gas contained in the water direct from the spring. There is more iron than I thought would be in it. This most probably exists in the water as ferrous carbonate dissolved in the carbonic acid. It resembles the European water of Pyrmont, with this difference, that it contains more chlorine and silica. As far as I have gone I find the water to contain, in grains per gallon: Chlorine, 11·2; lime (CaO), 12·74; magnesia, 1·177; silica, 10·266; iron (FeO), 1·177—total solids per gallon, 36·560; carbonic acid, 172 cubic inches." This spring has an enormous outflow, and is destined to be of great value in the future both for external and internal use.

The next fact that strikes the inquirer is this: that the thermal springs of the Rotorua district contain a far smaller amount of dissolved salts than those of Europe. The difference amounts to 7 to 1 in favour of Europe. If we take the mean of the total solids in grains per gallon of the nine springs first enumerated, we find that they amount to 99·51 gr. only; whereas if we take any nine European springs at haphazard—say, Vichy, Ems, Baden Baden, Marienbad, Seidlitz, Wiesbaden, Saltzbrunnen, Kreuznach, and Leuk—we find that their dissolved constituents amount to 708 gr. per gallon.

Fortunately, the therapeutic efficacy of a thermal spring is not to be measured by the quantity of fixed salts it may contain. It would be a fortunate thing, of course, if we could discover in our district a cold mineral spring like that of Hunyadi-Janos, in Hungary, of which a wineglassful is an efficient aperient; but we can scarcely expect this in a volcanic region like ours. The so-called "chemically-indifferent springs," such as Gastein and Wildbad, in Germany, contain absolutely less mineral matter than our ordinary drinking water. Thus, the New River water contains 2½ gr. of solid matter to the pint, the East London Company 3 gr., and that supplied by the Hampstead Company 4½ gr. Yet these waters cause no apparent effect, whilst the springs of Wildbad, with 3½ gr. of salt to the pint, and Gastein with 2 gr., are capable of producing therapeutic results mainly due perhaps to the temperature at which they are employed. The chemically-indifferent baths, especially the cooler ones, possess peculiarly sedative effects, not only allaying nervous irritation, but also diminishing vascular excitement, whilst the warmer springs of the same class, being more stimulant, are chiefly used in aggravated cases of chronic rheumatism and rheumatoid arthritis. One important fact has been definitely established by experiment,—whatever may be Nature's secret in the preparation of these remedies, it can never be discovered by science or imitated by art. We must be content, therefore, with the empirical knowledge that certain mineral waters produce certain effects.

There are other salient points of difference between our springs and those of Europe. Our waters contain abundance of silica and silicates, and little or no lime, while those of Europe contain abundance of lime, and little or no silica or silicates. Our district appears to be one in which silica takes the place of lime, the latter being almost a chemical curiosity.

Another curious fact is that hepatic or sulphurous waters, characterized by the presence of sulphuretted hydrogen and free sulphuric acid, as in the case of the Priest's Bath, are abundant here, but absolutely unknown in Europe. The one sole point of resemblance—common not only to Europe and New Zealand, but to all thermal springs in the world—is the prevalence of chloride of sodium (common salt) as a leading ingredient.

THE SURROUNDINGS OF ROTORUA.

The Rotorua district enjoys the patronage of three classes of visitors: the tourist, the invalid-tourist, and the invalid proper. The question of common interest to them all is, What have they to do, and what have they to see when they get there? The best thing we can do for the tourist is to provide him with a local guide-book, and then transfer him into the hands of a guide. The most delightful trip he can take in fine weather—say from December to March—is to join a party, and do the round of the lakes.

Crossing from the old township of Ohinemutu in a steam-launch, he will first visit the Island of Mokoia, in the centre of Lake Rotorua; thence to the beautiful cold spring of Hamarana, one of the most charming picnicing spots in the district; thence through the Ohau Creek into Lake Roto-iti; here he would do well to camp for the night, and spend the following day in exploring the cosy bays and inlets with which the lake abounds, and visiting the hot spring of Manapirua, and the waterfall and hot springs in the neighbourhood of Taheke.

Crossing over to the western shore of the lake, and landing at Tapuaeharuru, a short walk of a mile or two will bring him to Lake Roto-ehu. Crossing this in a canoe, he will find the hot iron-spring already alluded to, and may readily convince himself of the presence of iron in the water by attempting to make tea with it, or using it to dilute his brandy.

Another walk of a mile will disclose one of the loveliest lakes in the district, Lake Roto-ma. The general consensus of opinion is, that this lake is a vision of beauty, which every visitor lingers round as long as possible and leaves with regret. This trip shows the visitor the Paradise of the district: he will find the Inferno at Tikitere. When George Augustus Sala visited this spot some eight years ago, he called it at once "Hell's Gates." It is certainly a most weird and awe-inspiring place. The steam rising from its boiling pools and mud-geysers is a never-failing landmark seen from every point of the Rotorua basin. The hydro-thermal action is so powerful at this spot that the visitor feels the earth vibrating under his feet; and yet, in spite of these dismal horrors, invalids—ladies even—will spend weeks here in order to get the benefit of the healing springs, which are justly credited with many most remarkable cures. Tikitere is eleven miles from Rotorua, and the trip may be comfortably made in half a day.

The next point of interest for the tourist is the Wai-o-tapu Valley, distant from Rotorua some twenty miles. Leaving his hotel after an early breakfast, say at 7 a.m., the visitor may see the chief points of interest in the valley, and return in time for dinner at 6 p.m., but only to regret the inadequacy of a one-day's visit to fully inform himself of the wonderful resources of this remarkable district.

NEW ROAD-WORKS.

Excellent work has been done recently in the formation of new roads to the principal sights of interest. A good coach-road is now completed from Rotorua, through Tikitere, skirting the Lakes Roto-iti, Roto-ehu, to the head of Roto-ma. This is the most interesting and picturesque drive in the district. A good bridle-track has been formed to the summit of Ngongotaha Mountain, from which the finest panoramic view of the surrounding country is obtained. In the north, the Bay of Plenty may be seen with its numerous islands; to the south the snow-clad summits of the volcanic mountains in the Taupo district. A road has been completed from Rotorua, through the Waiotapu Valley and across the Waikato River to Wairakei, and on to Taupo, which shortens the distance between the latter place and Rotorua by ten miles, besides being a far more interesting and attractive route.

TARAWERA.

Perhaps there is no more enjoyable trip for the young and strong than the journey to Tarawera Mountain, the scene of the eruption on the 10th of June, 1886. A ride of ten miles on horseback brings the visitor to the buried village of Wairoa; thence a voyage by boat some nine miles, across Lake Tarawera, lands him at the foot of the mountain. The ascent will occupy an hour and a half, and having arrived at the summit, he cannot but feel well rewarded for his toil. No verbal description can possibly convey an adequate idea of the scene of devastation and desolation which the view from this standpoint reveals.

The best advice we can give to the invalid tourist is to attend to business first and pleasure afterwards. If he really wishes to derive benefit from the hot springs, he must not bathe irregularly on the advice of Dick, Tom, and Harry; taking a long fatiguing journey one day, and possibly three hot baths the next, and then wonder how it is that he feels so limp and exhausted: this kind of thing will only disappoint him, and do no credit to the springs. He may very well spend the first three weeks of his visit in bathing systematically, filling up his intervals of leisure by visiting places of interest near his hotel or boarding-house—and there are many, though usually neglected because they are so easy of access.

THE ROTORUA BASIN AND ITS SURROUNDINGS.

Not one in twenty of the visitors staying at the Lake House Hotel takes the nearest route across the Pukeroa Recreation Reserve to the Government baths; and yet from this spot a most magnificent panoramic view of the whole Rotorua basin, 80,000 acres in extent, may be obtained. Standing on the highest point, and looking towards the north, the visitor sees spread out before him the tranquil beauty of Lake Rotorua—20,000 acres of water, with the lofty volcanic island of Mokoia in its centre. The lights and shadows on the surrounding hills, the cloud scenery reflected in the water, the white cliffs to the north and north-east gleaming in the sunlight, the steam column rising from Tikitere, the bluff of Wahanga—the most northerly point of the Tarawera Range—just peering above the intervening hills, and in the foreground the Maori village and the English Church on a promontory jutting into the lake, form a picture which would certainly delight the artist, who usually sees when he looks, if not the tourist, who too often looks without seeing. Turning to the south and south-west, I know of no prospect more lovely on a calm summer's evening at sunset. The steam columns of Whakarewarewa are thrown into relief by the dark background of hills, and through the Hemo Gorge a glimpse is caught of the deep blue Paeroa Ranges in the extreme distance. In the west is the bold bluff of Paparata, with its sky-line clothed with forest, through which the setting sun throws a flood of crimson light, making it look like a veritable bush on fire. North of west is the Ngongotaha Mountain, rising 1,600 ft. above the level of the lake, from the summit of which may be seen on a clear day the Bay of Plenty, with its numerous islands, and inland the snow-capped mountains of Ruapehu and Tongariro.

WHAKAREWAREWA.

At Whakarewarewa, only two miles from Rotorua, the visitor will find an epitome of all the neighbourhood contains; hotel and bathing-accommodation, geysers, hot springs, boiling pools, mud volcanoes, hot waterfalls, and siliceous terrace formation. It will interest the visitor to know that in our Thermal-springs District exist the only geysers in that British Empire on which the sun is said never to set. Geysers are found in the Yellowstone Park, in Iceland, and in Thibet. Of the latter we know very little; but geologists tell us that, of the geysers of the world, those of the States of Wyoming and Idaho are the oldest, those in New Zealand the next in age, and, strange to say, those of Iceland, with which most of us were first acquainted, the youngest.

It will be seen, therefore, that the invalid tourist has plenty to interest him close at home, without interfering in any way with a profitable use of the numerous hot springs at his disposal.

ACCOMMODATION.

The opening of the Auckland–Rotorua Railway, which took place in December 1894, greatly increased the number of visitors. From December until the end of March the hotels and boarding-houses are filled to overflowing. A list of some of the hotels and boarding-houses now open, with the number they are able to accommodate respectively, may be interesting.

HOTELS.	
The Grand	70
The Geyser	50
The Palace	40
Lake House	60
BOARDING-HOUSES.	
Bathgate House	85
The Langham	20
Tarawera House	20
Lake View	20
Rotorua House	22
Mokoia View	20
The Pines	25
The Blue-bath Coffee Palace	20
Total	452

The tariffs vary from 25s. weekly. The returns of baths taken show 48,868 for the year ended 31st March, 1899, against 46,688 for the year ended March, 1898.

ROUTES FROM AUSTRALIAN COLONIES.

The most direct route for visitors from the Australian Colonies is from Sydney to Auckland, and thence by rail to Rotorua. Those who may desire to see something more of the country may take steamer from Melbourne to the Bluff, and from thence on to Wellington, continuing the journey overland to Rotorua—a four days' trip, most enjoyable in fine weather. Patients should be recommended to bring plain, warm clothing, and substantial boots and shoes. Rotorua is essentially a convenient place for the wearing-out of old clothes. Frills and furbelows, jewellery and valuable watches, had better be left at home, as they are not improved by the sulphurous vapours arising from the springs. The watch *par excellence* for Rotorua is the nickel-plated "Waterbury."

PART IV.—DESCRIPTIONS OF LAND DISTRICTS.

THE AUCKLAND LAND DISTRICT.

G. Mueller, Chief Surveyor.

Introductory.

The Auckland Land District covers about four and a half degrees of latitude, extending from 34° 30′ to 39° S., its greatest length being about 365 miles, from the North Cape to the 39th parallel, south of Lake Taupo, while its greatest width is about 180 miles. In the peninsula north of Auckland, indented as it is on either side by harbours and arms of the sea, and with a mean width between the Pacific Ocean and Tasman Sea of little over forty miles, the range of temperature is remarkably small. The thermometer seldom registers above 80° in the shade in the middle of summer, whilst the heat is always tempered by a cool breeze, bringing the mean summer temperature to under 70° in the shade. The frosts are hardly worth mentioning, as the minimum register is seldom below 40°; but south of Auckland sharp white frosts occur very often, more especially beyond 38° of latitude, and snow lies upon the summits of some of the highest hills or mountains in winter.

Physical Features.

This land district may be said to have no real mountains, as the most prominent peaks of the several scattered ranges or hills seldom exceed 3,000 ft. in height above the sea-level, an altitude just enough—south of 38°—to clothe the last 1,000 ft. with snow in the depth of winter. North of Hokianga and the Bay of Islands there is one well-defined range of hills rising to a height of 2,463 ft.; whilst south of these places, and extending to the Wairoa River on one side and the Whangarei Harbour upon the other, the country is all more or less broken into ranges from 1,000 ft. to 2,000 ft. in height, with valleys between. The next really well developed main range lies within the Coromandel and Thames Peninsula. With a length of over 150 miles, it has an average height of over 2,800 ft., commencing with Moehau, or Cape Colville, 2,935 ft.; next, Te Aroha, a peak of 3,176 ft.; and ending at Weraiti with a height of 2,527 ft. There are two other well-defined ranges—namely, Tawairoa and Hauturu—lying between the West Coast and the Waipa basin, with their highest peak at Pirongia, which rises to 3,156 ft., and is often snow-capped. There are other ranges forming the watershed between the basins of the Waikato and Waipa Rivers, and dividing both from the streams running into the western side of Lake Taupo. Their highest peak is Pureora, rising to 3,793 ft. The eastern side of the land district is occupied by a very broken, forest-clad country, known as the Urewera country, the average height of which is about 2,500 ft. It is practically unexplored, and, being still in the hands of the Natives, is not as yet available for settlement. To the east of Lake Taupo lie the Kaimanawa Ranges, of about 4,500 ft., and generally open on the ridges, with valleys clothed in beech forests. Nearly the whole of the Auckland Land District is indented on both coasts with harbours and arms of the sea, forming a cheap and easy means of access. Of rivers, properly so called, there are only two of any great length—namely, the Wairoa and Waikato. The first empties itself into the Kaipara Harbour, a large arm, or rather succession of arms, of the sea, giving hundreds of miles of inland water-carriage to all parts of the Counties of Hobson, Otamatea, Rodney, and Waitemata. This river is navigable from its mouth to its junction with its tributaries Wairua and Mangakahia, a distance of ninety-one miles from the sea, and for forty miles it is navigable for ships of large burden. The River Waikato has a course of 200 miles, measured from its source in the Ruapehu Mountain through Lake Taupo to the sea on the West Coast. It is navigable for river-steamers for seventy-five miles from its mouth, and its tributary, the Waipa, for twenty miles from its confluence with the Waikato at Ngaruawahia. Another river—the Thames, or Waihou—though of no great length, affords a valuable means of inland water-carriage, and is navigable for small steamers for twenty-five miles. Generally speaking, everv part of the district has an abundant water-supply, now and then lessened for a short time at the end of a very dry summer.

Plains.

Of plains proper, this district has only the stretch of country called Kaingaroa, extending from the eastern side of Lake Taupo towards the Bay of Plenty, all more or less of a pumice formation; the valley of the Thames, and the delta between the Thames and Piako Rivers, which is generally level, the quality of the soil varying very much in different parts; and the Central Waikato basin, already thickly settled. Here and there in the North there are level plateaux of volcanic soil, more or less densely wooded, and along the main rivers there are stretches of level country, but there are no large plains of alluvial soil such as the Middle Island can show.

Lakes.

Of these, which add so much to the scenery of a country, this district possesses a fair share, there being eight principal lakes, with some twenty or more smaller ones. To the north of Auckland, in the Bay of Islands district, there is only one lake of any size, called Omapere, three miles by two miles, an old crater. In the Waikato are Lakes Waikare and Whangape, the first six miles and a half long by three miles across, and the second five miles by one mile. These lakes are generally covered with numerous wild swans and ducks, and, being both connected with the Waikato River by navigable creeks, form a convenient waterway for transport of goods to settlers living around their shores. All the remaining lakes of large size are within the watershed of the Thermal-springs District, and are mostly from seven to eight miles long, and from three to six miles wide, except Taupo Moana, the queen of the North Island lakes, which is twenty-five miles long and eighteen miles broad, with a depth of 500 ft. The scenery round its western shore is of the most romantic kind.

Forests.

The greater part of the Auckland Land District has been covered in the past with dense forests, which are now fast disappearing under the axe of the settler and being transformed into rich pasture-land. The only really good Crown lands fit for settlement in the North are still all covered with forest, and must be cleared and sown before any returns can follow. The area of forest land in the Auckland District at the present time is about 1,800,000 acres north of Auckland, and 3,420,000 acres south of it. The forests contain a mixture of trees of all kinds, from the giant kauri to scrubby tea-tree or manuka, but all the bush is useful for building, fencing, and household purposes, or at any rate may be converted into charcoal for sale. Of the giant kauri (the most valuable tree in New Zealand) great quantities, worth as much as £400,000 per annum, are being yearly cut, and exported or used for home consumption. To give some idea of the size of these trees, and the amount of timber contained in them, it is estimated that upon the Crown land to the north of Auckland, in the Counties of Hokianga, Hobson, Bay of Islands, and Whangarei, there are still remaining 498,000,000 feet, of a value, as the timber stands, of £498,000.

Soils.

With respect to the soils of Auckland, nowhere in New Zealand within such short distances is there such a diversity in the quality—a distance of half a mile often makes all the difference between rich alluvial and barren pipeclay. To the north of the Bay of Islands and Hokianga the lands are chiefly clay and sandstone, with here and there a volcanic area intervening. In and about the valley of the Mangonuiowae River, in the Hokianga County, there is some of the richest alluvial soil in the district; and, taking the whole Crown land remaining to the north of a line between the Hokianga and Bay of Islands Harbours, the really available good land fit for settlement would be about 40,000 acres. There are large areas outside of this which will carry good grass and feed one or two sheep to the acre, after clearing and laying down in grass; and there is also land highly suitable for fruit-growing. South of Hokianga, and between that place and the Wairoa River, the soil is, generally speaking, very good, being both volcanic and alluvial. Here the Crown has probably 200,000 acres of such land fit for settlement. Immediately south of the Bay of Islands, and extending thence to Whangarei, the soil is, for the most part, clay lying upon sandstone or marl, with alluvial flats in the bottoms of the valleys; but these are, as a rule, very narrow. Within the Puhipuhi State Forest there is an area, say, of 16,000 acres, more or less, volcanic soil, over a large portion of which a fire has run; having been surface-sown with grass, it is now carrying good pasture. Approaching Whangarei, at Hikurangi, the limestone crops out, overlying coal-deposits, and round Whangarei itself the soil becomes a rich volcanic, in a high state of cultivation. South of Whangarei Harbour, and from thence to Auckland, the Crown lands generally are of a broken character, with soil varying from alluvial swamps—as in the case of the Tokatoka Swamp of 16,000 acres– to the limestone areas round Maungaturoto, the sandstone and clay lands of Rodney County, and the poorer clay lands lying north of the City of Auckland, which have, however, proved eminently suitable for fruit-growing.

For about 200 miles south of Auckland the land (with the exception of the Cape Colville Ranges) is, generally speaking, far less broken, and gradually opens out into large tracts of level country in the Waikato and Waipa basins. Immediately south of Auckland the soil is rich volcanic until it is gradually superseded by the prevailing clays; the greater portion of Manukau County, for thirty miles south of Auckland, may be classed as pastoral, and is under occupation as such. The Crown areas available for settlement—say, 16,000 acres—are chiefly in the Otau Parish, varying from volcanic clay to ordinary clay land, forest-clad, and well adapted for pastoral purposes. In the Counties of Waikato, Raglan, Waipa, Piako, West Taupo, and Kawhia, there is a still greater diversity of soils; Raglan County contains large areas of good limestone country, broken, but with rich black soil, and carrying most luxuriant grass. The lower Waikato country consists of clay soil and extensive swamps, almost undrainable, but at a distance of eighty miles from Auckland is found a flat and undulating country, lying partly within the Waikato and Waipa basins, and partly within the valleys of the Piako and Waihou Rivers, formed mainly of alluvial deposits of rhyolite sands brought down from the volcanic districts. In the Kawhia County there are some 300,000 acres of excellent limestone land, a large portion of which is heavily timbered, with numerous warm valleys. Most of this land has now been acquired by the Government from the Native owners, and is being prepared for settlement. Beyond this there is a large stretch of country consisting alternately of open valleys and forest-clad hills, a fair proportion of which is good land, both pastoral and agricultural. The County of Coromandel, with portions of Thames and Ohinemuri Counties, is chiefly devoted to the mining industry. The soil is nearly all clay, the land very broken, but suitable for pastoral purposes if cleared of the dense forest that now covers it. The western portion, however, of the Thames and Ohinemuri Counties contain large areas of alluvial and swamp lands, now in the hands of the Crown, but, through want of drainage, not yet available for settlement.

In the County of Tauranga, the clay lands extend from Te Aroha Mountain to Katikati entrance, changing, near Tauranga, to sandstone and black pumice soil of rich character, which improves towards Te Puke and Maketu, where the land is all good, and more or less volcanic. In Whakatane County there are very extensive swamps, of which large portions are drainable, and back from the coast seven miles or so are large areas of Crown lands, broken and forest-covered, opened ready for settlement. The soil is chiefly clay or light loam, with alluvial flats in the valleys, and all well watered. This kind of country extends to the boundary of the land district. The coastal lands are nearly all alluvial flats in a high state of cultivation, and the settlers mostly well-to-do.

Review of Soils: Uses and Returns.

Briefly to set forth the capabilities of the Crown lands in the district, it will suffice to say that north of the Bay of Islands and Hokianga the land is suitable chiefly for two classes of persons—the gum-digger, and the fruit-grower or small farmer. The former has the range over large areas of Crown lands upon paying a small fee, and his earnings average from 5s. to 10s. a day. As for the latter, in and around Hokianga, with its 250 miles of water-frontage, almost anything can be grown, from the tropical banana to the more prosaic potato, whilst oranges and lemons flourish side by side with all kinds of apples, pears, and plums. Wheat does fairly well, and maize gives a return of 50 to 60 bushels an acre. Sheep also thrive; and most of the lands, when properly grassed with artificial grasses, will carry two or three sheep to an acre, but ordinary rough-grassed lands only one and a half to two sheep per acre. The Messrs. Williams, at Pakaraka, are feeding four sheep to the acre upon land sown with furze. The clearing of forest lands, ring-fencing and grassing them, will cost about £3 to £3 10s. per acre. The same remarks apply to the Bay of Islands and Whangarei, and to the country as far south as Auckland. Round about Whangarei district, and under similar conditions of culture, the average return for good agricultural or pastoral lands would be fully 12s an acre per annum. South of Auckland, throughout the Waikato, Piako, Waipa, and Raglan Counties, and thence south to the district boundaries, the land is both agricultural and pastoral. All the cereals do well, wheat averaging 27 to 30 and up to 40 bushels per acre, and oats 26 bushels per acre. Potatoes average from 5 to 7 tons per acre. Dairy-farming is carried on, yielding (upon well-cultivated farms) a net profit of 15s. to 20s. an acre per annum; whilst sheep-farming yields a profit of from 5s. to 7s. 6d. a sheep per annum on very large estates; allowing for greater losses from disease, &c., the average return would still be 4s. per sheep. The cost of clearing fern and scrub is generally from 7s. to 10s. an acre, and laying down fern land by surface-sowing and harrowing, about 17s. an acre.

The seaward counties of Tauranga and Whakatane are both agricultural and pastoral, growing wheat and maize alike to great perfection. In fact, the County of Whakatane, upon its alluvial shores and uplands, grows the greater portion of the maize produced in the district, and from the ports of Whakatane and Opotiki in one year some 34,000 sacks have been exported. In these counties the average yield of wheat is from 22 to 25 bushels per acre, oats about 29 bushels per acre, and maize 45 to 60 bushels per acre. It is quite possible within this district to select land early in the winter, fell and burn off by the ensuing summer, sow in grass in the autumn, and put on stock within twelve months from selection.

Rainfall.

The rainfall during the year averages about 39 in., the greater portion of which, as a rule, falls between the 1st of May and 1st of November, or during the winter and spring months. Owing to the constant changes of wind, caused by the configuration of the coast-line, the shortness of the distance between the two coasts, and the influence, greater or less, of the trade-winds, it is quite common for one neighbourhood to have double the rainfall of another, even though the two be only twenty miles apart. Droughts of more than a couple of months are practically unknown, and grass is always abundant.

Winds.

One of the chief means whereby the great healthiness of the climate is maintained is the constant presence of fine breezes, blowing both summer and winter, the prevailing winds being north-east and south-west, and very seldom passing into really heavy gales. In the middle of summer, the sea-breeze during the day and the land-breeze at night are almost unvarying.

General Products and Industries.

Timber.—The vast forests of kauri and other valuable trees have given this district the foremost place for production and export of timber. There are many safe and sheltered harbours for shipping, while streams and rivers without number form convenient highways for conveying logs to the mills or ports. Some idea of the extent of this industry may be given by quoting from the official returns made at the time of the last census. There were then forty-nine steam sawmills situated in various parts of the district, with engines of a total of some 2,000-horse power. These mills employed over a thousand men, and produced yearly some 80,000,000ft. of sawn timber, valued at £301,328; of timber resawn into flooring, skirting, &c., some 21,000,000ft., valued at upwards of £91,000, not to mention posts and rails, mouldings, sashes, and doors. Besides this output, in the remoter parts of the district large quantities of timber are hand-sawn. The durable puriri is converted into railway-sleepers, for which there is a great demand, and the totara is largely sought after for telegraph-posts and wharf-piles.

Kauri-gum.—The most unique production of this portion of the colony is kauri-gum, obtained for the most part from the country north of Auckland. It is formed by the hardening of the exuded turpentine from the kauri tree, and is dug out of ground from which the forest has been burnt off. The Royal Commission appointed in 1893 elicited the fact that the procuring of the gum gave employment then to no less than 6,897 persons. Last year 9,905 tons were exported, valued at £586,767. The kauri-gum is extensively used in the manufacture of varnish, and also for glazing calico. Nearly two-thirds of the varnishes in the market are produced from this gum. The average earnings of a digger may be taken as from £1 7s. to £1 10s. per week.

Flax (Phormium tenax).—An industry, which is for the present in a languishing condition, is the conversion of the broad leaves of the *Phormium tenax* into marketable flax suitable for the manufacture of rope, twine, mats, mattresses, and numerous other articles. The flax-mills are scattered over different parts of the district, as near rail- or water-carriage as possible, and employ about eighty men and boys, whilst the local rope-and-twine works give work to some forty more.

Gold.—This district has in the past produced large quantities of gold, but the area over which auriferous quartz-reefs have been discovered is limited to the Counties of Coromandel, Thames, Ohinemuri, and a small portion of Piako. In 1898 the output of this neighbourhood was 50 per cent. of all the gold produced in New Zealand, the quantity (142,383 oz.) entered for duty for exportation having been valued at £527,786. From 1878 to 1892 the Thames Goldfield alone produced some 600,000 oz. Now that the area over which auriferous quartz-reefs have been discovered has increased, a much larger output may be expected in the future. The total estimated value of the gold was £545,463 for 1898-99, against £401,602 in the previous year. All the gold won was obtained by battery amalgamation, and the bullion by the cyanide process. There is a large amount of English capital being expended in developing new discoveries in out-districts away from the goldfield, but it will be some time yet before these discoveries have reached their full development. At the Thames there is a School of Mines, well attended and showing good results.

Coal.—Coal is found in most parts of this district, and is being worked with more or less success at Kawakawa, Hikurangi, Kamo, and Ngunguru, to the north of Auckland; whilst in the south there are three mines at Huntly, all turning out a good household coal. The total output of all the mines in 1898 was 148,390 tons.

Fruit.—The climate of the Auckland District is well adapted for the growth of the orange, lemon, vine, and olive, as also for the fruits of England, America, and Japan. The subtropical kinds flourish about Hokianga, in the north; those of the temperate regions, in the Waikato and neighbourhood. Now that the problem of how to land fruit in good condition in the London market has been solved, orchard planting is rapidly progressing, and it has been found that the culture of the hard varieties of the apple will repay export to England. Of late years a demand has set in for the poor clay-land that used to contain gum, as it is admirably suited for fruit-growing. Orchards are now planted in neighbourhoods where the soil has lain idle for years, for it has been proved that apples grown on this poor soil keep longer than those grown on richer land. What can be done by cultivation and care on poor lands is evidenced at the Waerenga Government Experimental Plantation in the Waikato, where the two orchards of fruit trees and vines show most luxuriant growth. More attention is being just now paid to stone fruits, for which there is always a steady local market, than to apples, which have of late years been heavily handicapped by blight. The fruit industry in Auckland is yet in its infancy, and is capable of great extension. At present peaches are the only fruit canned, though there is also a good deal done in the way of drying fruits and vegetables by the process of evaporation.

Fishing.—The sea and harbours abound in fish. At least eighteen different varieties, suitable for the table, are caught with little labour, and settlers living near the sea-coast, or any one of the many harbours and tidal rivers, can always obtain enough for all necessities. At present the canning industry is confined to mullet, of which there is a large amount exported, and an equal quantity used for home consumption. The rock-oyster is found over a large area on these coasts, and large quantities are sent both to the southern ports of the colony and also to Australia.

Chief Centres and Surrounding Districts.

The City of Auckland lies on the southern shore of the Waitemata Harbour, one of the finest havens in the colony, on a narrow neck of land between the Waitemata and the Manukau. Alike from the sea and from the neighbouring hills the city and surrounding country present a charming picture. Especially fine is the view from Mount Eden, a low volcanic hill in the suburbs. Facing the town are the green hills and white houses of the North Shore, and the remarkable peak of Rangitoto; beyond lie the many islands of the Hauraki Gulf, with the blue hills of Coromandel and the Great Barrier in the far distance. Clustered near the foot of the hill, and scattered for many miles to the southward, are charming villa-like houses, with tasteful gardens and shrubberies, while to the north-west the view is closed by high wooded ranges. The city is unrivalled for its commercial position; it has communication by sea with both sides of the Island, while the Kaipara and Wairoa Rivers leading far into the northern peninsula, and to the south the Waikato and Thames Rivers leading into the heart of the Island, give it excellent natural facilities for inland communication. In April, 1896, the population of the city and suburbs amounted to 57,616 persons. The city is well supplied with gas and water, and amongst public buildings may be noticed Government House, the new Government Offices, Post and Telegraph Offices, Supreme Court, &c. There is a Free Public Library and Art Gallery, and a good Museum, containing what is probably the best Maori collection in the world. The Auckland University College is affiliated to the New Zealand University. The Victoria Arcade, the Exchange, Harbour Board Offices, hotels and clubs, as well as many commercial buildings, compare favourably with those in other parts of the colony. There are admirable recreation-grounds, including the Government Domain of about 180 acres, as well as the Botanic Garden and the Albert Park in the centre of the city. There is a tramway system extending through the suburbs. Auckland has numerous industries, including, amongst others, ship-building, sugar-refining, timber-converting, sash-and-door manufactories; rope-and-twine, pottery, brick-and-tile, and varnish works, printing-offices, &c.

The City of Auckland is the centre from which radiate all railways, road-, and steamer-routes. From it, by rail, lies the way to all Crown lands south of the Waitemata, while the Kaipara Railway connects it with the country north of Helensville. All lands to the north and along the Bay of Plenty are reached from its wharves by the Northern Company's steamers. The chief centres to the north are:—

Warkworth, on the East Coast, forty miles from Auckland, with communication by coach and steamer nearly every day. It is a thriving township, with post- and telegraph-office, public halls, hotels, &c. It is also the site of important hydraulic-lime and cement works. A good deal of agricultural and pastoral farming is carried on in its neighbourhood.

On the West Coast an important centre is Helensville, on the Kaipara Harbour, distant thirty-six miles from Auckland, with which it is connected by rail. It has all the conveniences required by travellers in the shape of good hotels, stores, &c., and is the starting-point of the river-steamers running to all places in the Otamatea and Hobson Counties. It is also one of the main centres for the export of balk timber.

Dargaville, on the Wairoa River, is a town of about 400 inhabitants, with all conveniences for travellers. It may be reached by rail and steamer from Auckland three times a week. Dargaville is the starting-point of the Kaihu Valley Railway, which is open for traffic for twenty miles from the town, and from the terminus of the railway all the Crown lands in the neighbourhood are reached, even so far north as Hokianga. The town is also the centre of a very large timber export. There are only two townships of any importance north of Dargaville—Port Rawene, or Hokianga, and Kohukohu, about four miles further up. Both have post- and telegraph-stations, and comfortable hotels, with fortnightly steam-communication from Auckland.

Whangarei, on the East Coast, is distant seventy-five miles from Auckland, with which it has steam-communication twice a week. The town is a thriving and important place, having a population of about 2,000, and is the centre of a large agricultural and pastoral country. In the neighbourhood is also a large coal-bearing and gum-producing district, while the export of oranges and lemons, which thrive magnificently on the rich volcanic soil, is on the increase. From here a coach runs weekly to Kawakawa, upon the arrival of the Northern Company's steamer, and from it, by carriage or horse, all lands can be visited within a radius of thirty to forty miles.

Kawakawa, at the head of the tidal portion of the river of the same name, is connected by a short railway-line with Opua, the calling-place of steamers from Auckland. Kawakawa possesses good inns. From it coaches run weekly to Hokianga and Whangarei. It is the centre of a coal and gum industry, and a port of lading for those products. The old town of Russell is situated further down the bay, and has a good hotel, besides having a post- and telegraph office. To Whangaroa and Mongonui the Northern Company's steamers run every week. Whangaroa is famed for its exquisite scenery, and is the centre of a large timber- and gum-export trade. Mongonui is the starting-point and centre from which to visit, by carriage or horse, all the Crown lands in the Mongonui County, and from it the steamer "Paeroa" runs to Awanui and ports beyond, in connection with the weekly steamer from Auckland.

South of Auckland, along the Waikato Railway, there are numerous townships of more or less importance, but no starting-point for Crown lands, until Mercer is reached at a distance of forty-three miles. It is situated at the borders of what is known as the Waikato Country, upon the Waikato River, which is tidal up to this point, and the township has a post- and telegraph-office and other conveniences. At sixty-five miles from Auckland by rail is Huntly, also on the Waikato River, a flourishing township, with a very large output of valuable coal. It has also pottery-, brick-, and tile-works. On the opposite side of the Waikato River large areas of Crown lands are being brought into use, and are carrying large quantities of sheep and cattle. The next town is Ngaruawahia, or Newcastle, seventy-four miles from Auckland, situated at the junction of the Waikato and Waipa Rivers, with hotels, bank, post- and telegraph-office. It is a centre from which portions of Crown lands in Raglan County are reached, and also from it river-steamers run north and south to the various settlements. Ngaruawahia has a flourishing creamery, a brewery, and a cooperage. At eighty-four miles from Auckland the train reaches Frankton Junction, where a line branches off to Hamilton, Te Aroha, Paeroa, Thames, and Rotorua, the main line going to Te Awamutu, ninety-nine miles from Auckland. The latter is a thriving town; but to reach available lands for future settlement the traveller passes on by rail to Otorohanga; Te Kuiti and Poro-o-te-Rau, fifteen and twenty-five miles further on respectively, are both of them places at which there are accommodation-houses, forming convenient centres for visiting the fertile undulating limestone lands in the vicinity. Hamilton is a busy, flourishing town, situated on both sides of the Waikato River, with a population of about 1,300 persons, and is the centre of a large agricultural and pastoral district. It possesses a creamery, flax-mill, brewery, and two soap-factories, besides other local industries. Cambridge, about thirteen miles by road and fifteen miles by rail from Hamilton, has a population of about 900, and is the headquarters of the Farmers' Club. It is a busy, thriving township, surrounded by good farming country. Between Hamilton and Cambridge, and in the country round, there are numerous creameries, cheese- and butter-factories; wine- and cider-making is also successfully pursued, and there are several apiaries, from which large quantities of honey are produced. There are three flour-mills in the district, one at Cambridge, one at Hamilton, and the third at the terminus of one of the before-mentioned branch lines. One hundred and sixteen miles from Auckland by rail is Te Aroha, a quiet township, celebrated for its thermal springs and good hotels. Another thirteen miles brings the traveller to Paeroa, a centre of mining industry, and in another twenty-nine miles the Thames Borough is reached.

The settlements at the Thames and Coromandel are essentially mining townships. The first is situated thirty-eight miles by steamer from Auckland, on the Firth of Thames, and at the mouth of the Waihou River. It has a population of about 5,000 persons. There is daily steam-communication with Auckland, and a railway connecting it with Paeroa and Te Aroha. Coromandel is about thirty-five miles from Auckland, with which it has constant communication by steamer; it is another mining centre, situated at the head of a picturesque harbour. Tauranga, with a population of about 1,050, is situated on the harbour of that name in the Bay of Plenty. Coaches run thither from the Thames, and from Rotorua; it has also constant communication by steamer with Auckland, and with Matata, Whakatane, and Opotiki. From the fact of the harbour being the only one on the East Coast capable of receiving large vessels the town is bound to be of importance in the future. Tauranga has a chemical and sulphuric-acid works, and a cheese-factory.

Opotiki, the second town of importance in the Bay of Plenty, is situated about sixty-five miles by steamer or road from Tauranga. It has weekly steam communication with Auckland, and is connected with Gisborne by a bridle-track. It is the headquarters of the maize-producing district, and has rich alluvial lands, from which good returns are obtained. It is a good starting-point from which large blocks of Crown lands suitable for pastoral purposes may be reached.

The Township of Rotorua is situated on the shores of Rotorua Lake, at a distance of 172 miles from Auckland. Since the railway from Tirau was opened travellers can now reach Rotorua in one day from Auckland. It is the chief township in the hot-lakes district, and has also a large area of fairly good Crown land near, adapted for pastoral purposes. Considerable quantities of sulphur are obtained from the neighbourhood.

Crown or Native Lands available for Future Settlement.

In the Mangonui County the Crown possesses 100,200 acres of fairly good forest land, tolerably easy of access.

In the Bay of Islands County there are only about 12,670 acres of available Crown land, both forest and open, but the Natives still own some 152,000 acres, chiefly forest land, except about Kaikohe, where it is open and rich volcanic land, most of it broken, but fit for settlement.

In Hokianga County there are some 159,400 acres of available Crown land, of good quality, nearly all covered with forest, and fit for immediate settlement. The Natives still own some 104,650 acres, almost all good land, and fit for settlement.

In Whangarei County there are about 54,750 acres of available Crown land, mostly broken and forest-clad. The Natives still retain some 28,850 acres of land, part of it very rich.

In the Otamatea County the Crown retains only about 8,150 acres, a good deal of this being alluvial swamp, and well worth draining. The Natives still own about 20,000 acres, but not much of it is fit for settlement.

In the Rodney and Waitemata Counties about 10,100 acres of Crown lands are left, most of it fit only for pastoral or fruit-growing purposes. The Natives still own about 14,000 acres in these two counties, some of it very good land.

In the Manukau County the Crown owns some 10,600 acres of broken forest land, fit for pastoral purposes. The Natives still own about 15,000 acres, a portion of which is fairly good.

In the Waikato and Raglan Counties the Crown lands amount to about 32,500 acres, all fairly good land, mostly forest, and easy of access. In Raglan County the Natives still own the freehold of 150,000 acres, all good land, but difficult to secure.

In the Coromandel, Thames, and Ohinemuri Counties there are about 139,600 acres of available Crown lands. In the last two counties a good deal of the land is swampy, and requires draining. The Natives still own 97,200 acres, much of which is very good.

In Tauranga, Whakatane, and Rotorua Counties the Crown owns 487,700 acres, nearly all forest-clad, and generally broken; but in the last-named county the Natives retain a very large area, the greater part too broken or too much covered with pumice or volcanic ash to be fit for settlement.

In the Kawhia and West Taupo Counties the Crown is acquiring from the Natives large areas of very good land, all fit for settlement and easy of access. About 300,000 acres are really first-class land, and about 1,000,000 acres fairly good land, all suitable for pastoral purposes, and accessible from the Main Trunk Railway-line.

The Crown now hold about 25,700 acres in Kawhia County and 138,000 acres in West Taupo County.

THE TARANAKI LAND DISTRICT.

J. Strauchon, Chief Surveyor.

The Taranaki Land District is situated on the western side of the North Island of New Zealand, at about its widest part, and may be said to be the most compact and fertile district of the colony, for, with the exception of the upper half of Mount Egmont, and of the ranges adjoining, which absorb about 36,000 acres, the whole of the area—minus what is taken up by the rivers, streams, and lakes—is suitable for settlement, and certainly two-thirds of the district is good land. The gross area of the district is 2,430,000 acres.

Physical Features.

Of mountains, the principal one is the beautiful volcanic cone from which the district takes its name, Taranaki, otherwise called Mount Egmont, which has an altitude of 8,260 ft. This mountain is the centre of distribution for a radius of twenty miles of the volcanic formation known as the "drift," which covers the volcanic rocks below an altitude of 3,000ft. Hummocks composed of trachyte boulders and cement crop up here and there and make excellent metal-quarries.

Beyond the volcanic formation—that is, from about Urenui on the north and Hawera on the south—the country is generally broken, and the formation is known as papa, a calcareous blue clay, capped in many places by shelly limestone.

The northern portion, between the Tongaporutu and the Mokau Rivers, contains also limestone, greensands, and coal outcrops. At Panirau, a small tributary of the Mokau, about thirty miles from the sea, there is an isolated patch of volcanic agglomerate and tufas, and a similar formation is found at the north-eastern corner of the district.

Eastward of the base of Mount Egmont there are few, if any, mountains worthy of the name, although there are many ranges varying in height from 1,000ft. to 1,500ft. above sea-level, and, in a few instances—such as the Matemateonga and Waiaria Ranges—they run up to 2,500 ft.

The principal river is the Wanganui, which bounds the district on the east between Taumaranui and Pipiriki, a distance of about ninety miles. Its average width varies from 2 to 3 chains. For nearly the whole distance it is shut in by high precipitous hills, and in many places by perpendicular walls of rock. The scenery is very grand and beautiful. There are numerous rapids, but few of them are dangerous to skilful canoeists. A steamer runs regularly from Wanganui to Pipiriki, a distance of fifty-five miles. Another small steamer of light draught and considerable power has now been built. This is intended for opening up the tourist and trade traffic on the upper portions of the river between Pipiriki and Ohura, a distance of some sixty miles. A channel is now being snagged up the Tangarakau River as far as Putikituna, a distance of twelve miles. From this point a road (nine miles in length) is being constructed to join the Ohura (or East) Road at a point about forty-seven miles from Stratford, and in the middle of the Whangamomona Improved-farm Settlement, the settlers in which and surrounding blocks will thus have double communication, with Wanganui on the one hand and Stratford on the other. When the road is completed through to Auckland (say within the next three years) tourists can enjoy a trip up the Wanganui River as far as Ohura, then back, and up Tangarakau River across to Ohura Road, then on to Auckland, or back to Stratford, as they desire. The principal tributaries flowing into the Wanganui on the Taranaki side are the Whangamomona, at eighty-two miles; Tangarakau, at eighty-five miles; Ohura, at 114 miles; Ongaruhe, at 143 miles respectively from the Town of Wanganui.

The next river in size is the Mokau, bounding the district on the north. It is navigable for small steamers of 70 or 80 tons as far as the coal-mines, about twenty miles from its mouth, and for canoes as far as Totoro, twenty-six miles further up. Several outcrops of coal are found on its banks, and, as limestone is also present, the river is likely to become an important waterway of the district. The scenery on either side, although not on quite so grand a scale as may be seen on the Wanganui, is very beautiful.

The other large rivers are the Waitara and Patea. The former has its source about midway between the coast and the Wanganui River, in an easterly direction from Pukearuhe, between New Plymouth and the Mokau. It is about a hundred miles in length, and runs out at the Town of Waitara, some ten miles north-east from New Plymouth. There is a bar at the mouth, but steamers of 300 tons can enter safely in calm weather, and, although there are numerous rapids on its course, it is navigable for canoes for about ninety miles.

The Patea River rises in Mount Egmont, and, after traversing a tortuous course of about 110 miles, runs out at the extreme southern end of the provincial district. It has a bar-harbour, with a depth of 13ft. to 14ft. at spring-tides. Steamers of from 40 tons to 50 tons trade regularly to the town of Patea, which is situated a mile or so north of the mouth. The Patea is navigable for canoes for fifty miles.

Besides these rivers there are many smaller ones, and streams innumerable—in fact, no district in the world could be better watered and at the same time be so secure from disastrous floods. It is estimated that between the Mokau and the Patea there are no fewer than eighty-five named streams emptying themselves into the Tasman Sea, fully sixty of which flow from Mount Egmont.

Excepting the Ngaere Swamp, a block of open land near Eltham, 3,700 acres in extent, now partially drained and recently disposed of for settlement purposes, there are no plains, properly so called, in the district, although the stretch of very fertile country lying between the Waingongoro and Otakeho Rivers, comprising an area of about 25,000 acres, is known as the Waimate Plains. Of this area 13,500 acres have been disposed of, and the remainder, 11,500 acres, has been handed back to the Natives as a reserve.

There are no lakes worthy of the name. The largest sheet of water is Rotokare, situate about twelve miles from Eltham; it is about half a mile in length, with an average width of six chains. There are also a few small lakes inland from Waverley, at the southern end of the district.

The whole of the district, with the exception of a fringe of open country along the coast from Pukearuhe to Patea, averaging three miles in width, and containing about 250,000 acres, and some valleys at the north-eastern corner of the district, about 150,000 acres in extent, was originally covered with heavy forest. Estimating the area already cleared for settlement at 240,000 acres, it will be seen that there still remain about 1,754,000 acres under bush.

The larger timber is chiefly rata, rimu, matai, tawa, kahikatea, kohekohe, pukatea, rewarewa, hinau, with a few totaras scattered here and there. Among the smaller trees may be mentioned the kotukutuku or fuchsia, karaka, and mahoe.

As regards the timber industry, there are altogether twenty-three sawmills, and the total quantity cut in 1898 was 13,138,000 ft., chiefly rimu (red-pine), kahikatea (white-pine), and matai (black-pine). Fifteen of these mills work together under Association rules and prices, their output for the year being 11,600,000 superficial feet. The other eight work independently, and their output amounted to only 1,538,000 ft. for the same period.

An area of 72,565 acres, measuring six miles on every side from the summit of Mount Egmont, has been set apart as a forest-reserve. At about three miles within the reserve the forest begins to get stunted; and at four and a half miles it gives place to low wiry scrub, which ceases at five miles, or an elevation of about 4,000 ft. At 5,000 ft. the moss ends; beyond this point to the summit the mountain is composed of loose scoria and lava.

A comfortable mountain-house has been built at an elevation of 3,200 ft. on the northern face of the mountain, at a distance of twenty miles from New Plymouth by the Junction and Egmont Roads. Eighteen miles can be driven over, and the remaining two ridden. This house is maintained by the North Egmont Forest Board of Conservators, and is open for the accommodation of visitors from the middle of December to the end of March in each year. The keeper acts as guide also. There are women's rooms at one end of the house, men's at the other, with large common living- and dining-room in the centre. Visitors have now the option of being supplied with meals at a cost of 1s. 6d. each, or they may provide and cook their own food. Horse feeds, 1s. 6d. each; paddocking, 6d. daily, or 2s. 6d. a week. A small charge is made of 2s. if stay is for one night only; if for longer, then 1s. per night throughout the visit. Guide's fee for mountain, £1 per party. During the past season there were 438 visitors, remaining various periods of from one or two days to as many weeks, while the total number of visitors to the mountain was for the season 690. In fine weather, when the snow is off, the mountain can be ascended without risk. A considerable sum has been expended in improving the accommodation at the house during the past season.

The mountain can also easily be ascended from Stratford side, the return journey occupying about thirteen hours, including stoppages. Tourists can ride over the first thirteen miles to a rough shelter-shed above the grass-line, altitude 4,325 ft.: time occupied, about three and a half hours. Here the horses are left, and the remaining climb has to be done on foot: time required for fair walker, a good three hours, although, coming down, the distance can be done in two hours. 350 persons visited the mountain by this route during the season. Good hotel accommodation, guide, horses, and provisions, can be obtained in Stratford on reasonable terms. The return trip can be varied by visiting Dawson's Falls and Kendle's Cascade.

Another route now coming into favour is from Hawera or Eltham *viâ* Manaia or Kaponga and Dawson's Falls. At the latter place a comfortable shelter-house, capable of accommodating over forty people, has recently been erected, and is known as the Falls Mountain-house (altitude, 2,990 ft.). This house, which is close to the Falls (65 ft.), is within an easy two hours' ride of Kaponga. During the season the house is in charge of a caretaker, and food, bedding, horse-feed, and paddocking can be obtained. The number of visitors to Falls and mountain by this route is said to have been about a thousand for the season. From the house to summit of Mount Egmont occupies a good six hours' climbing at a moderate pace. From the top, where the whole Taranaki District lies spread out to view at one's feet, the tourist can, instead of returning by same route, drop down to the mountain-house on the north or New Plymouth side of and 3,000 ft. up the mountain. The walk would not occupy over two hours, easy walking.

Soils.

The volcanic soil, the boundaries of which have been already described, varies a good deal in quality. The best is believed to be on the south side of the mountain, between Stratford, Hawera, and Opunake, but not less than two or three miles from the forest-reserve boundary. It is thought that the country now being opened to the north and east of the volcanic deposit—that is, the papa and limestone formation—will, from the presence of lime, be much richer and more lasting as pasture-land than that around the mountain. The carrying-capacity of the land is, on an average, three sheep to the acre.

Dairying, Grazing, and Agriculture.

Taranaki is essentially a grazing and dairying district, its chief products being butter and cheese.

There are 75 dairy factories, 66 creameries, and 1 condensed-milk factory scattered over the district. Of these factories, 62 produce butter only, 13 butter and cheese combined. Seventy-five factories and creameries are owned by proprietory companies, while 67 are run on co-operative principles. Besides the above are many small plants run on individual farms of which no record is obtainable.

In September, 1896, a new work in connection with the dairying and meat industries was started in the shape of the Taranaki Freezing Works. They are situated at Moturoa, near the breakwater, and close alongside the railway-line. Substantial buildings have been erected, and a railway siding laid down. The machinery consists of a "Paxman" compound surface-condensing engine of forty indicated horse-power, driving a "Livide" compressor, capable of freezing 400 sheep per diem: although up to the present time the company has confined its attention wholly to the freezing of dairy produce, 1,473 kegs of 1 cwt. each, 93,286 boxes each ½ cwt. of butter, and 6,532 crates each 1¼ cwt. of cheese having been sent from the works to the Home market. During the hot season the factories and railway-vans carrying butter have been supplied with ice from the works at a nominal cost.

At the Taranaki Bacon Factory, Fitzroy, substantial buildings have been erected, and a 6-horse-power "Livide" machine fitted up, and the owner, Mr. Drake, has the works in full swing. The pigs are purchased from the farmers in the district and delivered at the styes in connection with the factory, where they are topped off with corn-feeding for fourteen days before being slaughtered. The number of pigs put through during past season was 2,409, weighing 313,170 lb., or an average dead weight of about 130 lb. each. The hams and bacon exhibited by this factory have always taken first-class honours in the various agricultural shows. An industry like this cannot but prove of great assistance to settlers in the district, and should receive their most cordial support.

There are in the Taranaki Provincial District 17,558 horses, 202,481 cattle, 486,980 sheep, and 26,596 swine. These figures include all kinds and ages.

Agriculture has not hitherto been carried on to any great extent in this district. The total area under corn-crops and cut for threshing during season 1898–99 was 11,034 acres; corn- and grass-crops cut for hay, chaff, or ensilage, 8,588 acres; corn- and green-crops for feeding to, or down with, stock, 10,238 acres; sown grasses and clovers for feeding down, 658,171 acres; sown grasses for seed, 7,647 acres; potatoes, 2,212 acres; beet, 10 acres: total area under crops of all kinds, including gardens, orchards, vineyards, 699,739 acres. Plantations, 1,119 acres; fallow, 641 acres.

The average yield of different grain-crops in bushels per acre for season of 1898–99 is: Wheat, 28·59; oats, 37·99; barley, 38·33; rye, 12·00.

Mining.

The only mining going on at present is at the Mokau Coal-mines, which are situated on the Mokau River, about twenty-one miles from the sea, the river being navigable right up to the mines for vessels of 6 ft. 6 in. draught. The original mine recently changed hands, and is now held by a Scottish company, known and registered as "The Mokau Coal-mines Syndicate (Limited)," which occupies under a sixty years' lease from the Native owners. The coal is of best class of pitch brown, is rapidly gaining favour as an excellent household coal, and is also good for steam purposes. Eight distinct seams of this coal are already known, one overlying the other, and varying in thickness from 2½ ft. to 8 ft. The one now being worked is the fourth of the series, and 8 ft. thick, with a 6 in. band of slate in middle, but this band is rapidly running out. At the entrance to the drive, which runs some

15 chains into the hillside on an upward incline of 1 in 24, and is laid with the usual light mining rails, on which the trucks are worked by horses, the altitude above level of the river is about 40ft. The broken ground has now been passed through, and a face of 250 ft. of good sound coal exposed. It is proposed to sink on the lower seams to test their thickness and quality. The operations of the company have been greatly hindered through loss of two small steamers at sea. Extensive improvements have, however, been made in the shape of new buildings, in relaying the lines with iron rails, and in pushing on the construction of a new air-drive, which is now finished and will be sufficient to thoroughly ventilate all the workings for years to come. The company hopes to have more steamers in the trade again shortly. A new mine, about half a mile up the river from original one, and called the "Fernside Coal-mine," was opened up in January, 1898, by Messrs. Bayly, Ogle, and Co., of Waitara, who also own the s.s. "Manukau," and run her in connection with the mine. The seam now being worked is a lower one than that in the other mine, is 6 ft. thick of clean coal, and good quality. In opening up a new mine many difficulties have to be met and dealt with; consequently the output for 1898 was only about 1,200 tons, but the owners hope during the current year to greatly increase these figures. A considerable amount of work has been done both by the Government and coal companies in snagging and opening up the river for traffic, which must also prove of great advantage to the lands on both sides for miles above the mines. A signalman has been appointed at the entrance of the river. One or two fossickers are at work searching for gold near the old "Boar's Head" Claim, which was worked over thirty years ago, in the Patua Ranges, some sixteen miles south-west from New Plymouth, but so far have not found payable gold.

After a lapse of many years, boring for petroleum has been resumed. A new bore was sunk at Moturoa, close to the former bore, and at a depth of about 875 ft. oil was struck in considerable quantity. After fully testing this well, it was found that it was impossible to "shut off the water" from below, which seemed to rise and fall with the tide, thus indicating the existence of some fissure or other means of inlet from the sea. The result was that only about two or three barrels, of 42 gallons each, could be got per day, the oil rising at intervals only, and all efforts to pump having continuously failed. The company then chose a site about half a mile inland, and sank a bore to the depth of 1,534 ft. without, however, obtaining any oil. A third bore, which is still open and cased, was then sunk about a quarter of a mile from the first, and in this gas in a great volume was struck at about 908 ft., followed at 910 ft. by oil in great quantity and of excellent quality. Unfortunately, this was struck in soft papa, and after about twenty barrels had been pumped, and when the company was beginning to sell and to export its crude petroleum, the supply suddenly ceased. The gas, which had previously issued in sufficient quantity to enable the company to dispense with other fuel, ceased at the same time. The most probable explanation of this mischance is that the soft papa, of which the roof of the oil-seam is composed, having been deprived of the support of the formerly imprisoned gas and oil, has collapsed, and thus choked the oil-seam lying in the vicinity of the bore. After further efforts to pump out the mud filling the bore, the company resumed drilling with the hope of obtaining another oil-supply at a greater depth. At 1,384 ft. oil was obtained in small quantities, and gas was thrown up in great volume. At 1,865 ft. the bore passed through the sedimentary papa rock and entered sandstone, which continued to the bottom at 1,976 ft., where a large quantity of oil and gas was struck. The bore was cased with 6-in. casing down to 1,379 ft., where a thin hard streak of sandstone was found embedded in the papa, and was taken advantage of to shut off the water from above; but, unfortunately, water was again met with below this, and as no other hard stratum was passed between that and where the oil was struck, it was found impossible to shut off the water, although a 5-in. casing was sent right to the bottom. Packing was also tried several times. Each time the packer succeeded in shutting off the water for a few days when oil was pumped at the rate of about eight barrels per diem; the sides of the bore around the packer, however, kept crumbling away each time, and the rush of water from above effectually prevented further pumping of oil, and the company was reluctantly compelled to abandon this their third bore, the plant being unequal to deeper boring. Undaunted by frequent failures, the plant was moved about 100 yards west, and a fresh bore commenced. This passed through similar but harder strata, and is now down 2,050 ft., with the plant still on the ground. During the year a new drilling plant was obtained from America. This has been erected on the Frankley Road, and is some four miles south-east of former workings. Here, although drilling was prosecuted vigorously, several months lapsed before a depth of 300 ft. was reached, owing to an immense quantity of broken volcanic rock, gravel, and sand being encountered. Shortly afterwards it was found impossible to make any progress at all, the sand and gravel falling in faster than it could be pumped out, and after rising as much as 30 ft. in the iron casing. Another site was selected about half a mile nearer Moturoa and 331 ft. above sea-level, where, although similar difficulties were encountered, the papa formation was reached at 410 ft., after passing through 25 ft. of quicksand. This bore was continued to a depth of 1,335 ft., but no oil was struck. Seven bores having thus been tried to various depths without success, the company abandoned the enterprise, and sold all their property by public tender. A local gentleman became the purchaser, and he, after an interval, obtained the co-operation of a few other New Plymouth residents. A new site was selected near Moturoa, about 150 yd. south-east of the company's third bore, over which one of the plants has been erected, and from which oil still continues to flow in small quantities and mixed with water. The second plant has been erected at the site chosen for the new bore. The depth is now about 160 ft., and drilling operations are progressing satisfactorily. The company, having now two complete drilling plants on hand, with an experienced staff, is in a position, should the necessary capital be forthcoming, to thoroughly test the extent and value of the oil deposits of the district.

An enterprise like this, if successful, would enrich and give an immense impetus to the trade and importance, not only of the district, but also of the colony generally. Should the efforts now being made be abandoned through lack of capital, it is unlikely that further steps will be taken for many years to further test the value of these deposits, of the existence of which there can be no doubt.

Ironsand is found in great abundance on the seashore from Mokau to Patea, a distance of 130 miles. It produces, when smelted, from 50 to 60 per cent. of iron of the finest quality. The first attempt to smelt this sand was made in 1848, and several trials have been made since, but the heavy cost of production and the absence of capital and modern appliances have, so far, retarded the industry. Strong efforts are now being made to remedy this by the introduction of outside capital, and it is hoped these will shortly be successful.

Climate.

The climate of Taranaki is remarkably healthy, without any extremes of temperature. Below is given a table of mean, maximum, and minimum temperatures in shade for each month of the year ending December, 1898:—

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Mean temperature	62·5	60·0	60·6	57·8	54·4	51·5	51·3	50·8	52·3	54·6	57·8	63·1
Max. temperature	82·0	79·0	79·0	75·0	74·0	69·0	67·0	67·0	67·0	68·5	76·0	78·0
Min. temperature	42·0	38·5	39·0	37·5	3·10	32·5	35·0	30·0	34·5	41·0	39·0	42·0
Number of days on which rain fell...	7	11	10	9	15	10	20	16	16	15	18	15
Total rainfall per month in inches and decimals ...	2·63	3·06	4·73	3·35	3·97	3·05	4·77	3·70	2·67	5·21	7·42	4·50
Mean barometric reading for the month	29·94	29·89	29·99	30·09	29·88	30·10	29·72	29·99	30·94	29·72	29·89	29·88

The mean barometric reading was 30·00 in. for the year. Total rainfall, 49·06 in. on 162 days, the maximum fall being 1·67 in. on 18th June. The rainfall varies considerably, as, for instance, at Norfolk Road, three miles south of Inglewood, the rainfall for the year was 90·46 in. on 186 days; the maximum fall was 3·97 in. on 18th January. The average rainfall at New Plymouth during the past five years was 63·85 in., and at Norfolk Road for same period 103·11 in.

Chief Towns.

The principal town of the district is New Plymouth (population about 4,176), situate on the seashore, about two miles from and to the north-east of the picturesque rocky islets known as the Sugar Loaves. The general appearance of the town is very attractive, and it abounds in neatly-kept gardens. The Recreation Grounds, from which a good view of Mount Egmont is obtained, form a favourite resort.

New Plymouth is 252 miles by rail from Wellington, the railway running in a northerly direction through the district from Patea to Sentry Hill, where it turns at right-angles westward for eight miles to New Plymouth. From Sentry Hill there is a branch line to Waitara, four miles distant.

The Port of New Plymouth is situated at the Sugar Loaves, two miles from the town. Protection for shipping is afforded by a concrete mole or breakwater running in a north-east direction for a distance of 1,900 ft. Under the lee of this there is wharf-accommodation provided for the coastal trade. Steamers of 1,000 tons can be berthed here in almost all weathers. The wharf is connected with New Plymouth by both rail and road. The breakwater was built at a cost of £200,000, borrowed under security of one-fourth of the land revenue of the Provincial District of Taranaki, and the right to levy a rate over certain lands. The present rate levied is ½d. in the pound on the capital value. The principal over-sea exports from breakwater for the year (exclusive of all coastal trade) were: Bacon and hams, 3 tons; butter, 2,530 tons; cheese, 583 tons; fungus, 90 tons; leather, 5 tons; potatoes, 86 tons; flax, 4 tons; grass-seed, 19 tons; tallow, 5 tons; wool, 30 tons; timber, 26,730 ft.—total value of £332,374. Imports (over-sea): Value, £55,512. Customs duties for the year, £19,045. During the year 410 steamers entered and left the port: tonnage, 141,226, with crews numbering 8,415. The number of passengers to and from the breakwater by sea, 11,800.

Manufactures in New Plymouth are represented by a sash-and-door, a boot, butter-keg, and three coach-factories, a brewery, a cordial, and also a patent stopper-factory, a flour-mill, tannery, fellmongery, bone-mill, and iron-foundry, with freezing-works and bacon-factory in the suburbs. The town has both water and gas laid on.

Hawera, the next largest town, is situate on the eastern edge of the Waimate Plains. The population is about 2,000. The Wellington–New Plymouth Railway runs close to it, the distance by rail from New Plymouth being about forty-eight miles. Hawera is surrounded by a first-class dairying and grazing country, capable of carrying a very large population. On 1st December, 1898, an up-to-date bacon-factory, costing some £1,200, commenced the work of killing and curing in Hawera, and the company expect to do large business during the current year.

The Town of Patea is situated on the coast, at the extreme southern end of the district, and has a population of about 800. There is a splendid grazing district inland, with a large area of land yet to be opened up. The principal industry is the canning, freezing, and boiling-down of meat. Exports for the year 1898 were: Wool, 4,863 bales; fungus, 230 bales; tallow, 1,040 casks; pelts, 692 casks; hides, 7,168; skins, 6; corn, 438 sacks; grass-seed, 1,308 sacks; cheese and butter, 2,101 boxes; flax, 788 bales; cased meat, 6,381 cases; bone-dust, 958 sacks; potatoes, 437 sacks; sundries, 311 packages; cattle, 85. The imports were: 6,375 packages of sundries; coal, 359 tons. The number of steamers in and out was 132. The Patea Harbour Board has just imported an up-to-date wool-dumping press and hydraulic pumps. It also proposes repairing and extending the present wharf and shed accommodation, and has also now in hand and well advanced the construction of a new guide pier (on western side of mouth of river), the estimated cost of which is £5,100. The width between the east and west pier heads is 260 ft.; width of channel about 180 ft., gradually narrowing to 100 ft. as the beacons are approached. The pilot reports the depth of water at not less than 12 ft. at high-water springs, and 9 ft. at high-water neaps, with a straight channel.

Stratford, a comparatively young town, lies about midway between Patea and New Plymouth. It has already a population of about 1,700, and is growing fast.

The height above sea-level is 1,000 ft., and the climate is bracing though somewhat moist. The main road to Auckland—known as the Stratford-Ongaruhe (now Ohura Road)—starts here. It has been formed as a cart-road for forty-eight miles, and as a bridle road to fifty-six miles. If the work is continued energetically, communication with Auckland should be opened up in about three years' time. A bacon-factory has just been started at Stratford under very favourable circumstances, and is likely to prove a public benefit, and also a financial success to the proprietary company. The works are on a fair scale and up to date. The machinery is driven by a 30-horse-power Victor turbine, the power being obtained from the Patea River through a tunnel 865 ft. long, cut across a bend in the river. The refrigerating engine is a 6-ton British Linde, while hot water is supplied from a high-pressure boiler in an adjoining building. The chilling-chamber holds about 120 carcases (or one day's killing); here they remain overnight, and are then passed on to the curing-room, a spacious compartment of 80 ft. by 26 ft., capable of holding 1,000 carcases; from here they pass to the drying-room, of same size and capacity, on the upper story. A brick smoke-house, capable of dealing with 600 pieces at a time, has also been erected. The piggeries and slaughter-house are about a mile from the works, and are connected by tramway; the former consists of twenty compartments holding ten pigs each, and are conveniently arranged for feeding, &c. On the Eltham-Opunake Road another factory, called the "Pioneer Bacon Factory," was started by Mr. Buchanan in 1897, putting through in that year 400 pigs; last year 900 carcases, weighing 121,500 lbs. (an average dead-weight of 135 lbs.) were dealt with; in 1899 the above figures will probably be trebled or more.

Waitara, a seaport town of 628 inhabitants, is situated on the river of the same name, a mile up from the sea, and about ten miles north-east from New Plymouth. The Mount Egmont Freezing-works have during the year dealt with and exported to London frozen meat, dairy produce, wool, &c., to the value of £90,584. These freezing-works possess two powerful Haslam freezing-machines, capable of freezing 500 bullocks per month; they are also gazetted a Government grading and cool store, a great advantage to the outside dairy factories, whose butter thus avoids all risk of injury after grading. All produce is conveyed on board the New Zealand Shipping Company's ocean-going steamers (which anchor in Waitara roadstead) in specially-constructed and insulated bags. The oversea exports for the year were: Frozen meat, 1,410 tons; butter, 131 tons; cheese, 245 tons; wool, 3,101 bales; leather, 27 bales; tallow, 196 casks; pelts, 10 casks; sundries, 6 tons. The exports coastwise were: Tallow, 418 casks; grain, 170 tons; potatoes, 131 tons; flour, 14 tons; general merchandise, 468 tons; frozen meat, 66 cwt.; butter, 287 boxes; sawn timber, 147,676 superficial feet; horses, 5; sheep, 319; cattle, 926; chaff, 429 sacks; fungus, 18 bales; skins, 54 bundles; hides, 1,263. Imports coastwise: Grain, 294 tons; potatoes, 28 tons; manure, 106 tons; lime, 294 tons; coal, 3,497 tons; flour, 516 tons; general, 2,276 tons; timber, 348,920 ft.; grass-seed, 301 sacks; sheep, 467; horses, 1; hides, 95; butter, 6 boxes; skins, 27 bundles; wool, 178 bales; fungus, 28 bales. Total imports, 7,747 tons; total exports, 3,913 tons. During the year 152 steamers and 22 sailing vessels entered and left the port, their gross tonnage being 36,944 tons, while eight large ocean-going steamers anchored in the roadstead.

Inglewood, situated on the railway-line, sixteen miles south-east of New Plymouth, is a flourishing little town of some 800 inhabitants, rapidly coming to the front.

The only other towns of importance are Eltham, population, 800; Opunake, population, 400; Manaia, population, 480; and Normanby, population, 410.

Roads and Railways.

The chief means of communication is the railway from Wellington, which traverses the district between Patea and New Plymouth—a distance of sixty-six miles. Trains run every day between New Plymouth and Palmerston North—164 miles—and on Mondays, Tuesdays, Thursdays, and Fridays there are through trains between New Plymouth and Wellington—252 miles. The Main North Road runs from New Plymouth, passing through the Towns of Waitara and Urenui; it is formed as a cart-road as far as Pukearuhe, a distance of thirty miles. From here a horse-track connects with the Mokau and Awakino Rivers, and from Mokau there is a road to Te Kuiti, in the Auckland District. At twenty-four miles and a half from New Plymouth and about three miles beyond Urenui a new main road is being formed up the Mimi Valley and over the main range east of Mount Messenger, thence down Tongaporutu Valley to near the sea, where it joins the old road. It is hoped that this road will be opened for traffic during the year, and, although some eight miles longer than the other, it will always be available independent of tides. About midway between New Plymouth and Waitara on the above road the Mountain road diverges and runs almost due south, and chiefly along the railway, for a distance of forty miles, connecting with the Main South Road at the Town of Hawera. This is at present the principal road in the district, tapping, as it does, large numbers of district roads, and passing through the Towns of Inglewood, Midhurst, Stratford, Eltham, and Normanby.

The Ohura Road branches from the Mountain Road at Stratford. It is formed and open for traffic to Whangamomona Village, a distance of forty-one miles and a half, and a coach now runs twice a week in summer (Tuesdays and Fridays) between Stratford and Whangamomona, fare 12s. 6d. The dray-formation has been completed for some seven miles further, but a small bridge requires putting in before it can be opened for wheel traffic; horsemen can, however, ride fifteen miles beyond Whangamomona without difficulty, and the road is now being extended into the interior so as eventually to connect with Auckland, and will open up a large area of fertile country.

The Main South Road from New Plymouth follows the trend of the coast to the south, and was at one time the coach-road to Wellington. It passes through the Villages of Omata, Oakura, Okato, Rahotu, Otakeho, Manutahi South, and Kakaramea, and the Towns of Opunake, Manaia, Hawera, and Patea.

The Junction Road runs south-east from New Plymouth, and crosses the Mountain Road and railway at Inglewood. It is formed and metalled for nineteen miles, and formed only for a further distance of thirty-two miles beyond this point, connecting with the Ohura Road at a distance of thirty-one miles from Stratford. This road crosses a number of district roads; hence its name.

The Opunake Road runs from Stratford to Opunake, twenty-six miles, skirting the southern base of Mount Egmont. It is formed and metalled for twelve miles from Stratford; the remainder is open for horse-traffic only.

The Eltham Road runs from Eltham to Opunake, twenty-five miles, connecting with the Opunake Road at Punehu, seven miles from Opunake. This is formed and metalled throughout.

The other main roads in course of construction are the Awakino Road, branching from the Main North Road at the Mimi; the Rawhitiroa Road, leaving the Mountain Road near Eltham; the Waitotara Valley Road, starting from the Main South Road at Waitotara Township; and the Otaraoa, Moki, and Okoke Roads.

Crown Lands available for Settlement.

	Acres.
Crown lands available for settlement	687,750
Native lands undealt with	326,250
Total	1,014,000

Of the above, about 150,000 acres are open valleys and hills in the north-east corner of the district; a good deal of it more or less pumice-land, but still suitable for grazing. From the rest may be subtracted perhaps 10,000 acres for area absorbed by rivers, gorges, &c., and there remain 854,000 acres of forest-land yet to be dealt with. Of this area perhaps 50,000 acres, made up of strips of flats and terraces, may be suitable for agriculture; while the balance—804,000 acres—will be good pastoral land.

It may be said, in conclusion, that there is every sign of genuine prosperity throughout the district, which has advanced rapidly during the last few years, and will no doubt continue to do so.

HAWKE'S BAY LAND DISTRICT.

E. C. GOLD-SMITH, Chief Surveyor.

The Land District of Hawke's Bay comprises that portion of the east coast of the North Island from Cape Turnagain, in latitude 40° 30′, northwards to Lottin Point, about thirty miles beyond the East Cape, and contains the Waiapu, Cook, Wairoa, Hawke's Bay, Waipawa, and Patangata Counties.

It has a seaboard of 300 miles, with an average depth from the coast of forty-five miles, and embraces an area of 6,063,000 acres. Its western limit is defined by the Ruahine, Kaweka, Ahimanawa, Raukumara, and other high ranges that form the watershed between the rivers flowing through it to the sea, and those that run to the west coast and the Bay of Plenty.

Physical Features.

The Ruahine Range extends northwards for about sixty miles from the Manawatu Gorge as far as the valley of the Ngaruroro River. Its altitude varies from 3,000 ft. to 6,000 ft., and for a considerable distance its summit is snow-clad during the winter months.

The Kaweka, a shorter range, divided from the Ruahine by the Ngaruroro River, attains an altitude of 5,650 ft., is very rugged and steep, and a prominent feature in the landscape in winter, covered as it then is with snow.

From these two ranges, which fall very abruptly on the Hawke's Bay side, the land slopes gradually to the sea, forming in some parts fine rolling hills—the essence of a sheep-country—in others extensive plains, with comparatively little poor soil.

Northwards from the Kaweka there is a series of forest-clad ranges of varying height, stretching away in the direction of the East Cape. Hikurangi, the highest point, is a bold peak with an elevation of 5,606 ft., rising so abruptly on all sides that the ascent can be made only at one point, and that with difficulty.

The only lake in the district of any extent is Waikaremoana, so famous for its magnificent scenery. It lies about thirty-five miles inland of the Wairoa (Clyde), and is eleven miles in length, with a breadth at the widest part of about eight miles. Nestled among precipitous mountain-ranges, wooded to the water's edge, with numerous bays and inlets, it has a natural beauty hardly to be surpassed.

From Wairoa there is a formed road to the lake, and sixteen miles round it, as far as the Mokau Falls and River.

The principal plains are: (1.) The Ruataniwha, some fifty miles south of Napier. This is 120 square miles in extent, is for the most part occupied as sheep-runs, and carries a large quantity of stock. (2.) The Heretaunga Plain, with an area of ninety square miles, lying immediately to the south of Napier. This is rich alluvial land; a large portion is thickly settled, the remainder used for grazing and agriculture. The only other plain of any extent is at Poverty Bay. It has an area of sixty-five square miles, is very fertile, well cultivated, and bears a large population.

The land district is well watered throughout by numerous rivers and streams, but none are navigable except the Wairoa and Turanganui, and these only for vessels of light draught. They are both tidal, and serve as ports to the Towns of Wairoa (Clyde) and Gisborne.

Communication.

The chief outlets from Napier are three in number. First the Napier–Wellington Railway, which traverses the centre of the southern half of the district for its whole length of 100 miles, and may be called the main artery of communication. Parallel to it throughout runs an excellent gravelled road, which was made before the construction of the railway. On either side there are numerous branch roads, which act as feeders, making a very complete system of internal transit. Another main road runs in a westerly direction to Kuripapanga, distant forty-five miles, a favourite resort in the summer time, removed as it is from the heat of the country near the coast. A coach runs thither twice a week, and on thence to Inland Patea, where the Napier Road meets the roads to Hunterville, Tokaanu, and the Wanganui River.

The part of the district served by these two main lines—viz., that between Napier and Woodville—contains the greater portion of the population, and from the extent of arable land within it is likely in the future to be very thickly peopled. Notwithstanding that so much of the Native land in this part is unoccupied and in its natural state, there are nearly a million of acres of land in sown grasses, carrying 2,750,000 sheep and 80,000 cattle, and the population, inclusive of towns and villages, is about 36,000 persons.

The only main road northwards from Napier is the coach route to Taupo, which, soon after leaving the fertile Petane Valley, begins to traverse poor country, and twenty-five miles out enters the light pumice soil.

From Napier to the Wairoa the journey must be done on horseback, as there is a break of twenty-three miles between Tutira and Mohaka unfit for wheeled traffic; but this is being gradually remedied. As a natural consequence, the traffic between these two places has to be done by small steamers.

From the Wairoa a main road runs northward, through the Village of Tiniroto and on to Gisborne, a distance of seventy-five miles. For a considerable distance it runs through hilly country, and, as it has not been gravelled, wheeled traffic is suspended during the winter months; but a coach runs weekly for nine or ten months out of the year.

Between Gisborne and Opotiki, in the Bay of Plenty, communication is not good. The road, which is 120 miles in length, has been formed only to the edge of the Motu Forest, a distance of fifty miles. In the neighbourhood of the forest a large area of Crown lands has been taken up and settled in the last two or three years. The rest of the journey must be done on horseback.

In the country north of Gisborne, formed roads for wheeled traffic are few in number, and not continuous; but small steamers trade regularly along the coast, calling in at Tolago and Tokomaru Bays, Waipiro, Tuparoa, Awanui, Kawakawa, and other small bays.

Pastoral Industries.

The Hawke's Bay Land District is pre-eminently a sheep-grazing country. The extent of land in sown grasses was, in November, 1898, no less than 2,178,024 acres, while 2,243,949 acres were in tussock or native grass. In April of that year there were 4,406,020 sheep, 138,564 cattle, and 27,514 horses. The value of the wool exported from the district during the twelve months ending 31st March, 1899, was £931,844, and the quantity 31,414,810 lbs.

Freezing-works are now established at Tomoana, Port Ahuriri, and Gisborne, and the export of frozen meat for the year ending 31st March, 1899, was 243,122 cwt., the value being £252,927. This industry gives employment to a large number of persons, both directly to those engaged in breeding, shearing, freezing, and shipping, and indirectly to those who labour at bushfelling, grass-seed sowing, fencing, and otherwise opening up new country. Nor must the cutting of the immense amount of firewood consumed at the works be forgotten. All this benefits the settler with limited means, by providing him with funds to improve his holding, and to this is due, in a great measure, the general prosperity.

Agricultural Pursuits.

Agriculture is not carried on to the extent it might be with so much land suitable for root- and grain-crops. No doubt this is due to the profits made in sheep-farming. It is chiefly confined to the Heretaunga Plains and the flat lands near Gisborne. The soil is favourable to root-crops; potatoes range from 12 to 15 tons to the acre, and in some instances exceed this amount. Only a moderate quantity of grain is grown; barley, for which the soil seems well adapted, returning from 20 to 60 bushels of good sample to the acre.

Dairying.

Settlers are now turning their attention to dairying, and lately factories have been established in the bush districts at Norsewood, Ormondville, Maharahara, and Woodville, whilst several others are in contemplation. At the last-mentioned town a cheese-factory has been in existence for some years, and turns out an excellent article much sought after in other parts of the colony.

Timber Industry.

The timber industry is considerable, numerous sawmills being in full work in different parts of the district. In the forest between Takapau and Woodville there are twelve, with an estimated yearly output of 10,000,000 ft. This tract of forest is the one most used for milling purposes, and will yield a plentiful supply for a long time to come, notwithstanding that for years past a large amount of totara timber has been taken out of it to send to other parts of the colony. Further north there is no totara to speak of, though rimu, white-pine, and other milling timbers are to be found scattered throughout the forests. and in the Poverty Bay District puriri is found in some quantity. There were 1,563,933 superficial feet of timber exported from Napier during the year ending 31st March, 1899.

Other Industries.

Other industries, such as fellmongeries, soap-works, boot-, coach-, and sash-and-door factories, &c., are established in the principal towns.

Climate.

The climate is generally of a mild character, and, though hot along the coast-lands in the height of summer, it is, owing to the dryness of the atmosphere, not so relaxing as in parts of the island farther north. The rainfall is light, excepting in the bush districts and high inland country.

Napier itself is recommended by many medical men as a resort for invalids suffering from pulmonary complaints, chiefly on account of the mildness of its winter season. During the year ending 31st December, 1898, rain fell only on eighty-one days, the total fall recorded being 35 in., while the average rainfall for the last thirty-three years is 37·070 in.

Towns.

Napier is pleasantly situated on the peninsula known as Scinde Island, which is joined to the mainland by a narrow shingle-bank of several miles in length. It is a busy town, with a population of 9,400. The business part is on the flat land at the foot of the group of hills that take up the greater part of the peninsula. These hills, formerly barren and waste, are now occupied by numerous private residences, and the very general tree-planting has given the upper town a distinctive and pleasing character. There is an excellent water-supply, derived wholly from artesian wells of large size, and pumped by machinery to reservoirs on the tops of the hills. The shipping trade, as the large exports show, is especially active during the wool and frozen-meat season. It is at present carried on at Port Ahuriri, about a mile from the town; but will, before long, in a large measure be transferred to the fine breakwater which is now advancing towards completion. During the year ending 31st December, 1898, the imports amounted to £181,486, and the exports to £1,113,242.

Gisborne, the trade-centre and port of what is known as the Poverty Bay District, is a prosperous town of about 2,500 inhabitants, rapidly increasing in size and importance, as the large quantity of unimproved land in the Cook County is fast becoming settled and made productive. There are 810,961 sheep now in Cook County, and Gisborne's exports amounted to £353,155 in 1898.

Clyde, the county town and port of the Wairoa County, is picturesquely situated on the Wairoa River, about three miles from the mouth. The river is navigable for small craft as far as the village of Frasertown, twelve miles further up.

With a few exceptions, the towns and villages to the south of Napier are all situated on the line of railway running from that city to Palmerston North. The principal are: Hastings, a rising town of 3,300 inhabitants, Waipawa, Waipukurau, Dannevirke, and finally Woodville, about three miles from the Manawatu Gorge, and distant ninety-eight miles from Napier. It is at this end of the district that the Crown has, in the last few years, successfully planted settlement, and, in place of the continuous forest known as the Seventy-mile Bush of earlier days, there are now prosperous townships, with various thriving industries established.

Crown Lands.

The land held by tenants of the Crown, of whom there are 767 in the district, under the various systems of tenure, amounts to 473,130a. 0r. 8p., and there remain about 400,000 acres not yet dealt with in any manner.

The latter is, for the most part, suitable for pastoral purposes only, any fit for agriculture lying in small, isolated spots, widely scattered, and such as could not be selected independently of the surrounding inferior land. Nearly the whole is broken forest country, fitted more for sheep than cattle, and having an average carrying-capacity, when cleared, of about one sheep to the acre, though the best of it might possibly graze from two to three. The land is chiefly in the Hangaroa, Koranga, Mangatoro, Norsewood, and Motu Districts, and the back-country of the Waiapu County.

About 28,000 acres are now open for selection, in addition to small grazing-runs to the extent of over 50,000 acres. In the Waiau Survey District, near Waikaremoana, there are over 8,000 acres, also hilly country, of limestone formation. In the Motu District, between Gisborne and Opotiki, there are about 16,000 acres open, and in the Mata and Hikurangi Survey Districts, situated from fifteen to twenty miles inland from Waipiro, there are 13,700 acres of rough forest limestone country, at the present time not easy to get at; but a road to the block will shortly be put in hand. There are also 1,000 acres open in the Pohui District, about twenty-eight miles north of Napier, and about 20,000 acres are shortly to be opened in the Waikopiro, Ngapaeruru, and other blocks near Dannevirke.

Native Lands.

Of the Native lands in this district, a very considerable portion has been leased to Europeans, but there still remains in the hands of the Maoris a valuable estate, comprising both agricultural and pastoral country, and including some 800,000 acres of excellent land. This land lies for the most part in the Waiapu County, towards the East Cape.

THE WELLINGTON LAND DISTRICT.

J. W. A. Marchant, Chief Surveyor.

The Wellington Land District is bounded on the north by the Districts of Auckland and Hawke's Bay, on the west by that of Taranaki, on the east by the sea, and on the south and south-west by Cook Strait. The area contained within these limits is about 6,810,958 acres. It lies between the parallels of 39° and 41° 30′ south latitude; its greatest length north and south is about 180 miles, and its mean width east and west about sixty miles.

General Physical Features.

The district is divided into two well-defined parts by a mountain range, which forms part of the backbone of the North Island. At its northern end this range—there known by the name of Ruahine, and averaging a height of about 4,000 ft.—divides Wellington from Hawke's Bay; but after passing the point where it is intersected by the Manawatu River, the range takes the name of Tararua for many miles, until, at about forty miles from the termination on the shores of Cook Strait, it divides into two main ranges, known respectively under the general names of Rimutaka and Tararua, both ranges averaging from 2,500 ft. to 3,500 ft. in height, the highest point being Mitre Peak, 5,154 ft. Parallel to the main range, and divided from it by the Wairarapa Plain and the undulating country to the north, is a series of ranges at a few miles inland from the East Coast, known as the Puketoi, Taipo, Maungaraki, and Haurangi Ranges. Lying on the northern border of the district are the Kaimanawa Ranges, offshoots from the Ruahine. They are for the most part open and grass-covered, rising to a mean height of about 4,500 ft. Westward from the latter mountains, and divided from them by a deep, broad valley, in which flow the Waikato and Wangaehu Rivers, is the volcanic chain of mountains containing Ruapehu, 9,008 ft., and Ngauruhoe, an active volcano, 7,515 ft. high. The long sweeping curve of Cook Strait, forming the south-western limit of the district, is bordered, from the Patea River to within thirty miles of Wellington, by a comparatively level and undulating country, now nearly all under cultivation, having an average width of about fifteen miles. This is one of the finest parts of the colony, and is celebrated for its stock-raising capabilities. It was originally in a great measure open, though the southern part, where the plain is narrowed in between the sea and the Tararua Range, has a good deal of forest on it, now fast disappearing under the axe of the settler.

Inland of this coastal plain, at varying distances from the sea, the country gradually rises to a mean height of about 1,500 ft. to 1,800 ft., and becomes a good deal broken in character. It was originally forest-clad almost throughout. It is much cut up by rivers and streams flowing from the interior to the sea, of which the principal, commencing from the north, are these: The Waitotara, the Wanganui, the Wangaehu, the Rangitikei, the Oroua, the Pohangina, and the Manawatu, which last, after leaving the gorge in the Ruahine Ranges, runs through level land to its mouth in Cook Strait. This broken country, being everywhere composed of papa, or marly formation, which takes grass excellently, promises in the near future to be a large sheep-carrying district.

At about fifteen miles south of the volcanic peaks of Ruapehu Mountain the papa country terminates in a fairly well-marked escarpment, giving place to a more level and undulating country formed of volcanic matter, the greater portion of which is forest-clad, though on the south-east, east, and west sides of that mountain there are open grassy plains, of no great fertility, but yet suited to pastoral pursuits.

To the eastward of the main range formed by the Rimutaka and Tararua Ranges is the great depression known at its southern end as the Wairarapa Plain, which gradually rises northwards from the lake of that name into wooded, somewhat broken country, of no great height, at a distance of some forty-five miles from the sea. From here the country falls again slightly to the Upper Manawatu River, the depression in this part being marked by the extensive flats in the neighbourhood of Pahiatua, and by the shallow valleys of the Mangahao, Mangatainoko, and Tiraumea Rivers and their branches. For thirty miles from the sea this great valley is mostly open, with patches of forest here and there, but becomes more plentifully wooded at the base of the Rimutaka and Tararua Ranges. The quality of the soil varies from light and stony, on the Wairarapa Plains proper, to rich papa country, as the northern end is approached. The southern end of this country is watered by the Ruamahanga River and its tributaries. Generally the district is a pastoral one, though agriculture is also pursued successfully. The neighbourhood of the Puketoi Ranges is in many places composed of limestone, and promises in the future to become a very rich pastoral district, such as will carry a considerable population. In the forks formed by the Tararua and Rimutaka Ranges the Hutt River takes its rise, and runs in a southerly direction through an undulating or level country, finally falling into Port Nicholson. The valley contains some very fine land, generally held in small holdings.

Plains.

The two most important of these have already been mentioned. On the eastern side of the main range the Wairarapa extends northward from the lake of that name for about forty-seven miles, with an average width of about nine miles. In some parts, especially on the flats along the Ruamahanga River, the soil is alluvial and rich; in others, though stony and unfit for cultivation, it is nevertheless grassed, and carries stock well in the winter and rainy seasons. The plain is watered by the Waiohine, Waingawa, and Ruamahanga Rivers, and contains altogether about

200,000 acres, much of which is good agricultural land. On the other side of the district, west of the Tararua and Ruahine Ranges, there is a large block of land so nearly level that it may be called a plain, extending from Paikakariki (thirty miles from Wellington) to Marton (a few miles north of the Rangitikei River), and contains about half a million acres. Starting as a narrow strip between the hills and the sea, the plain widens out by degrees until at Fielding it is at least twenty miles in breadth. Along the beach runs a fringe of sandhills, but behind this is to be found some of the best farming and grazing land in the colony. There are two plains inland—Murimotu and Waimarino—both lying some 2,200 ft. above sea-level, in the neighbourhood of Mount Ruapehu, the former to the south and the latter to the north-west of the mountain. The soil is covered with a coarse native tussock, and, though capable of carrying stock, is of a light porous nature, and cannot be classed as agricultural land.

Rivers.

First among these is the Wanganui—"the Rhine of New Zealand"—with a length of over 110 miles from its source, near Mount Tongariro, to its outlet. The Rangitikei, the next in size, rises in the Ruahine Mountains, and flows through the Awarua country, where it is joined by the Hautapu and other large tributaries. After a course of over a hundred miles it reaches the sea some little distance below the Township of Bulls, on the West Coast. The Manawatu is third in importance. Rising in the Ruahine Range, it flows through the picturesque Manawatu Gorge, joining the sea at the port of Foxton. Lesser rivers on the West Coast are the Waitotara (north of Wanganui), the Wangaehu (which takes its rise in Mount Ruapehu, and from its source to its mouth is so strongly impregnated with sulphur that fish cannot live in it), the Turakina, and the Otaki. The only other rivers of any size are the Hutt (Heretaunga), emptying itself into the Wellington Harbour, the Ruamahanga, flowing through the Wairarapa Valley and lakes into Palliser Bay, and on the East Coast the Pahaoa, Aohanga, and Akitio.

Lakes.

The only lake of any size in the Wellington District is the Wairarapa, lying between the Rimutaka and Haurangi Ranges, towards the southern end of the Wairarapa Valley. It is about twelve miles long and four broad, and is connected by the Ruamahanga River with Onoke, a small lake separated from Palliser Bay by a narrow shingle spit only. A passage through the spit is opened from time to time when the lake rises above its natural level and overflows the low-lying flats along its margin. Water-fowl of every kind—among them numbers of black swans—are to be found round about these lakes.

Scenery.

The views obtained from the railway-line in the ascent and descent of the Rimutaka Range are among the best in the neighbourhood of Wellington, and the road through the Forty-mile Bush was long considered one of the most beautiful drives in the North Island; but much of its pristine beauty has been destroyed by the felling of the bush consequent on the increase of settlement. The same may be said of the Manawatu Gorge, famed in the old coaching days for its lovely scenery, but now sadly marred by the construction of the railway-line. The most beautiful drive now left is through the Awarua Bush, from Ohingaiti to Moawhango. From this road, as it winds round the spurs, most charming glimpses are obtained of the Rangitikei River and the blue hills beyond, and at other points the traveller looks up deep ravines where the graceful fern-tree stands out in bright relief against the dark green of the native bush. Another road from Pipiriki, on the Wanganui River, to the Murimotu Plain, traverses one of the most magnificent forests in the North Island. Here the bushman's axe has felled only the timber standing on the road-line, and the track runs beneath the shade of the largest and stateliest maire and rimu known. Beautiful as these drives are, the scenery on the Wanganui River is still more lovely. A few miles below Taumaranui the river enters a series of gorges, shut in by high precipitous cliffs. Sometimes the canoe glides slowly through quiet reaches, sometimes shoots rapids which make the traveller hold his breath till they are passed, and then again traverses places where the water is ever in turmoil, boiling and eddying in whirlpools, taxing the energies of the most skilful Native steersman, and testing the nerve of the most courageous tourist. These experiences, with the views obtained of the banks, densely wooded even where the papa rock rises almost straight from the water's edge, make the eighty miles journey from Taumaranui to Pipiriki an event not easily effaced from the memory. Between Pipiriki and Wanganui excellent steamers are now running, so that the beauties of the lower part of the river may be seen by all without trouble or discomfort.

Forests.

The Wellington District is essentially a forest country, for out of the 6,810,958 acres contained within its borders 3,400,000 are still under bush. By far the largest forest is the Waimarino, having an area of at least three-quarter million acres, a large portion of it being nearly level land, containing magnificent timber, principally totara, maire, matai, rimu, and other pines. This forest is as yet hardly touched, though one sawmill has lately been started at Raetihi to cut timber for the settlers now making their homes in the neighbourhood. The distance from the settled districts or any port will render the timber in this part useless as a marketable commodity until the country is opened up by the proposed Auckland Main Trunk Railway.

The next in size is the Rangitikei-Hautapu Forest, containing an area of about 400,000 acres, a considerable portion in the Awarua Block being first-class milling timber, which will be available as soon as the extension of the Hunterville Railway-line taps it. Between this and the Waimarino Forest there is a large extent of bush-land, drained by the Turakina, Mangamahu, and Wangaehu Rivers, extending up to the Wanganui River, and containing about 350,000 acres. Very little of this, from its inaccessibility, will be utilised for sawmilling purposes, but a great deal of it, together with a further block of 230,000 acres on the west side of the Wanganui River, will be cleared by the settlers and sown down with grass. A further block of about 100,000 acres of forest-land lies in the Pohangina Valley and on the slopes of the Ruahine Range. A large portion of this has been taken up and is now being settled.

The forest-land on the West Coast extends from Pukerua to the Manawatu Gorge, on the west side of the Tararua Range, and contains an area of about 380,000 acres, the bulk of it being fit only for turning into pasture. The most available part of it, alongside the Wellington–Manawatu Railway, is being extensively cut into by sawmillers at Levin and other places on the line.

After this in size is the forest commonly known as the Forty-mile Bush, containing 260,000 acres. It lies immediately north of Masterton, and is tapped by the Wairarapa Railway and the extension to Woodville. It is at present being quickly denuded of timber by the sawmills established at Eketahuna and Pahiatua, and by the increasing number of settlers. A tract of fully 100,000 acres lying to the east of the Puketoi Range cannot be utilised for milling purposes, as it is not tapped by any branch railway-line, and its distance from the main line would render the business unprofitable. Nor are there any suitable ports along the coast where timber could be shipped.

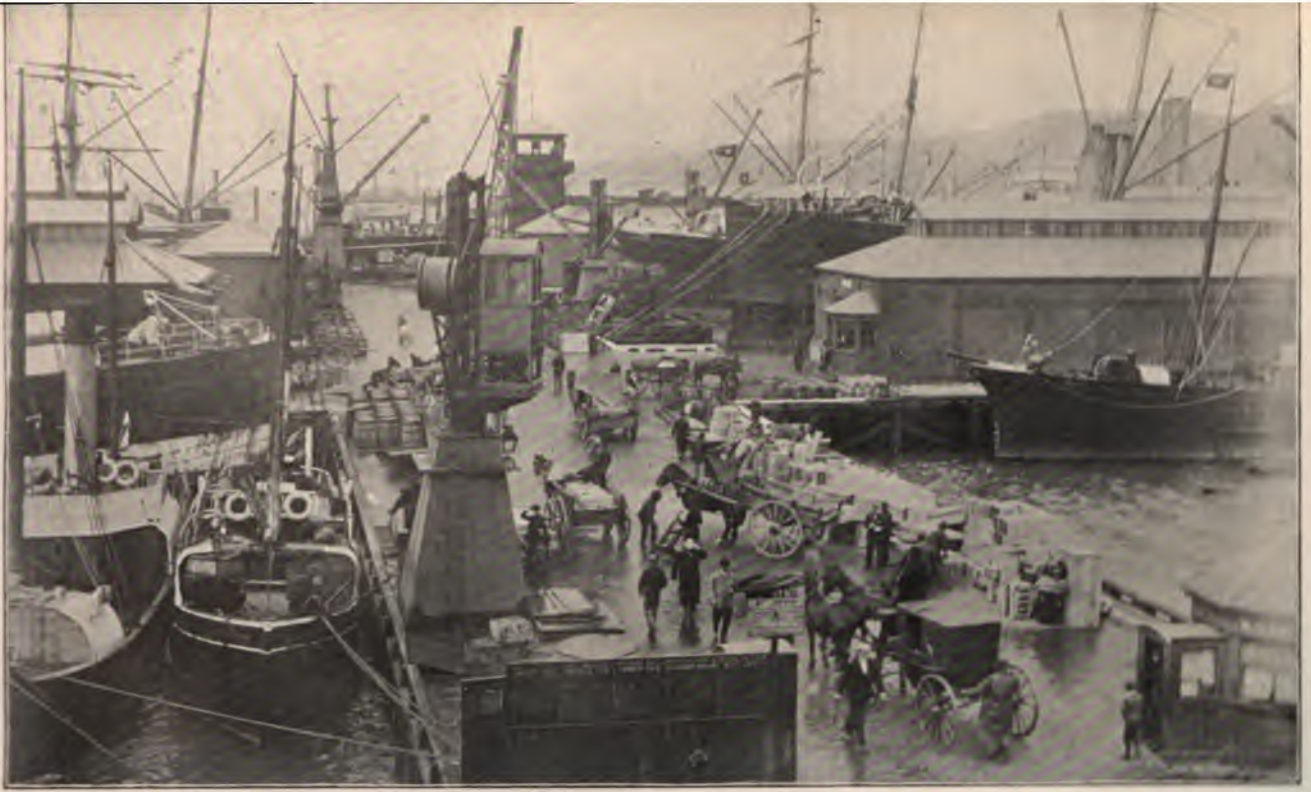
The other forests are, one near Lake Taupo, the Wairarapa–Tararua Forest on the east side of the Tararua Range, and its continuation on both sides of the Rimutaka Range, and the Haurangi Forest on the east side of the Wairarapa Lake. These consist for the most part of birch-covered hills, and cannot be considered as valuable for milling purposes.

Soil.

It may be said that the Wellington Land District contains within its borders a greater quantity of good land than any other in the North Island, very little, except the mountain-tops, being unfitted for use, while some of it is of very superior quality, suited for the growth of the productions of every temperate climate. As much of it is still forest-clad, settlers must look forward to having to make their farms by felling and burning the bush before grass can be sown, and, as it takes from

[illegible]

[illegible] the New Zea[illegible] [illegible] time [illegible] Gov[illegible] which [illegible] in what [illegible] Hemisphere are severa[illegible] must be mentioned th[illegible] mentary B[illegible] Post Office, Gov[illegible] Life Insur[illegible] and Harbour Boar[illegible] The Colon[illegible] Sir James Hector, [illegible] Botanical Ga[illegible] lighted by el[illegible] and its stre[illegible] supply of water [illegible] from the Wai[illegible] harbour. The [illegible] industries are [illegible] factories, sawmi[illegible] and-candle works [illegible] works, coach[illegible] rope-and-twine works [illegible] and pottery-work[illegible] a match-factory and [illegible] of various kinds. T[illegible] increasing with rapi[illegible] together with the [illegible]



H. Brusewitz, Photo.] Wellington Wharf. [*To face page 618.*

ten to fifteen years before the plough can be used in bush-land, grazing, for which the climate and soil is admirably adapted, will be the principal industry for some time to come. It is generally calculated that the cost of felling and burning ordinary bush varies from 25s. to 35s. an acre. To this must be added about 20s. for seed and fencing. It is no uncommon thing for a return to be received at from twelve to eighteen months after felling. The usual practice is to put sheep on to the new lands soon after the grass has obtained a good hold. The process of improving the lands by the gradual "logging up" and burning of the fallen tree-trunks is a long one, but it pays in the end, for in this way fine pasture-lands are obtained on the hills, and agricultural lands on the flats.

Climate.

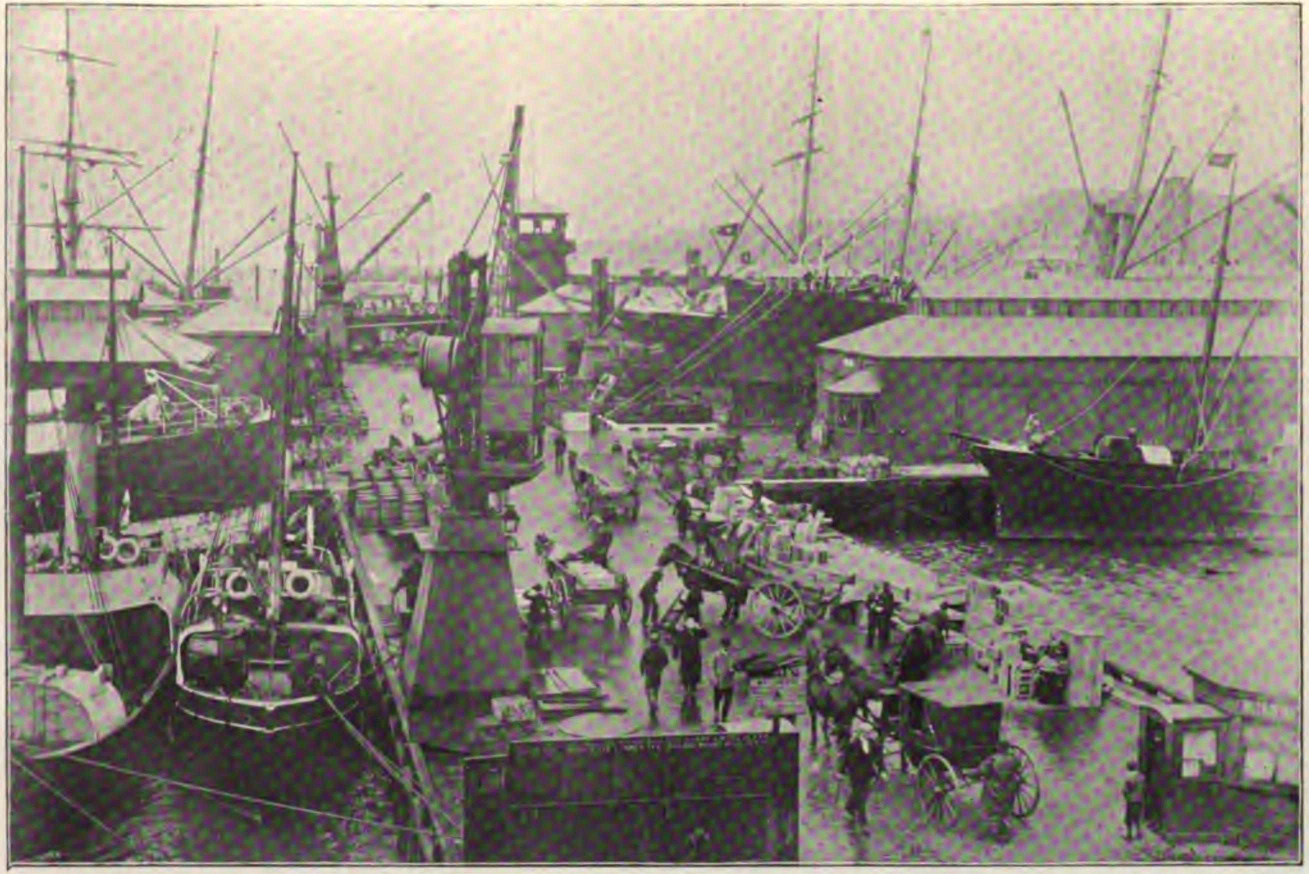
The climate of Wellington District is healthy and mild, the mean annual temperature (in the city) being 55·4, whilst the mean rainfall is 48·49 in. per annum. The rainfall differs, however, according to locality. Inland and near the ranges it is much greater. The top of Ruapehu Mountain is covered with perpetual snow, which lies also on the tops of Kaimanawa, Ruahine, and Tararua in the winter. Frosts are heavy in the interior.

Harbours and Ports.

The coasts of Wellington are not so well supplied in this respect as are some other parts of the colony; but what is lost in number is made up in a great measure by the excellence of the chief haven—Port Nicholson—which, from the position it occupies, at the meeting-point, as it were, of the coastal traffic of both Islands, and from its sheltered position and depth of water, may be considered one of the most convenient harbours in the world. The Wanganui River, which has been considerably improved by artificial means, is the second port in the district, and has a considerable trade carried on by coastal steamers. Patea and Manawatu Rivers are also used by coastal steamers, whilst several other places along the shore afford shelter and stopping-places, according to the direction of the wind. The extension of railways along both coasts has, in a large measure, done away with the inconveniences arising from want of harbours.

Towns.

The capital of the colony—Wellington—is situated in the south-west angle of Port Nicholson, on Lambton Harbour. The wharfage accommodation here is second to none in the colony, and the wharves present always a busy scene of life with the numerous steamers and sailing-vessels continuously loading or discharging. As many as four ocean-going steamers are not unfrequently seen alongside, loading with wool, frozen meat, and other products, for conveyance to Europe. The port possesses a patent slip at Evans' Bay, within a short distance of the city. Founded in 1840 by the New Zealand Company, the city occupies the flats skirting the original shore-line, long since obliterated by the reclamation of the foreshore, which is now mostly covered with fine buildings. Rising close behind the old shore-line is a range of hills, the lower parts of which are all built over. The population of the city at the present time is about 42,600. Being the seat of Government, it contains the residence of the Governor and the headquarters of the Government departments, which are placed in what is said to be the largest wooden building in the Southern Hemisphere. There are several noticeable public buildings, amongst which must be mentioned the Parliamentary Buildings, containing a valuable library, General Post Office, Government Life Insurance Offices, Public Library, School of Art, and Harbour Board Offices. The Colonial Museum, under the management of Sir James Hector, and the Botanical Gardens, are also worthy of notice. The city is lighted by electricity, and its streets are well kept and clean, whilst an excellent supply of water is obtained from the Wainui-o-mata River, on the other side of the harbour. The principal industries are represented by iron- and brass-foundries, factories, sawmills, soap-and-candle works, boot-factories, aërated water, meat-freezing works, coach-building, rope-and-twine works, sash-and-door factories, brick-, tile-, and pottery-works, besides a match-factory and innumerable other smaller works of various kinds. The city is increasing with rapid strides; its excellent position, together with the fine back-



A. Brusewitz, Photo.]

Wellington Wharf.

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country, places it in the front rank of New Zealand towns. Its principal suburbs are Onslow, Melrose, and Karori, each containing from 1,000 to 2,500 inhabitants.

The Township of Petone is situated near the mouth of the Hutt River, seven miles from Wellington, on the railway-line. It has a population of 3,200, and is a rising township, containing the Government Railway Workshops, a woollen factory, and a meat-freezing establishment. The Lower Hutt, almost immediately adjoining, has also a large population, and some well-built residences with beautiful gardens. The Upper Hutt, situated at the head of the valley, has many small farms, owned by some of the very early settlers. The railway here starts the ascent of the Rimutaka Range.

Featherston, situated at the foot of the Wairarapa Valley, fifty-one miles by rail from Wellington, is a small township, with butter- and cheese-factories in the neighbourhood. Roads lead from it to Martinborough and the East Coast, and also down the Wairarapa Valley to Palliser Bay.

Greytown North is situated three miles off the main line of railway, and near the middle of the Wairarapa Valley, fifty-three miles from Wellington. The chief industries are sawmilling and coachbuilding. The population is 1,100 persons.

A few miles further north is the Town of Carterton, where are to be found timber-mills, cheese-factories, &c., and a population of 1,300 persons. There is some splendid farming land in this locality on the banks of the Ruamahanga River.

Masterton is situated at the head of the Wairarapa Valley, on the Wellington–Eketahuna Railway, sixty-seven miles from the capital. It is the centre of an agricultural and pastoral country, and has a population of 3,800. It is lit by gas, and has several industries, such as fellmongery, rope-making, flax-mills, coach-factory, &c., and, in addition, has some excellent fish-breeding ponds, from which many of the rivers in the colony have been supplied with trout. An important coach-road leads from here through a fine pastoral district to Tinui, and on to Castlepoint on the East Coast, where a large quantity of wool is annually shipped to Wellington for export.

North of Masterton is the Opaki Plain, and beyond is the entrance of the Forty-mile Bush, which is now fast becoming a thriving pastoral, agricultural, and dairying district. Butter-factories have been established at Hastwell and Mauriceville, where a large number of Scandinavians are settled, forming hard-working and thriving communities.

Eketahuna is, by rail and road, ninety-four miles from Wellington. From there a main road leads to Alfredton, and up the Tiraumea Valley. The road is in process of extension through the East Puketoi country, now being opened up in farm-homestead settlements, and will eventually lead to Weber and Dannevirke, on the Napier Railway-line.

Pahiatua, a rising township about fifteen miles beyond Eketahuna, has a resident population of 1,200. It is the county and market-town of a large and improving district, and will probably also become the centre of a large dairying industry. Several branch roads run from Pahiatua into the adjoining country, the principal one leading to Makuri through a beautifully-wooded gorge. From there another branch road passes over the Makuri saddle into the East Puketoi country.

On the West Coast, Pahautanui, at the head of the Porirua Harbour, is the centre of a small agricultural community of early settlers, the old coach-road to Paikakariki running through it; and there is a branch-road leading over to Hayward's in the Hutt Valley. Paikakariki, twenty-seven miles from Wellington, may be considered the commencing-point of the West Coast settlements, which are springing up in every available valley along the coast. At Otaki, forty-seven miles from Wellington, by rail and road, there is a small township, and a large Native settlement. At Manukau, Levin, and Shannon, small townships have arisen since the Manawatu Railway Company opened up the land round about, much of it being rich farming and grazing country. Between Shannon and the Manawatu River there is a large raupo or flax swamp, named Makurarua, containing at least 15,000 acres of fine alluvial soil, which is being gradually drained by the company, and will probably at some future period become grazing-land.

Foxton, a township at the mouth of the Manawatu River, is a small shipping port, containing about 1,100 inhabitants. It is connected with Palmerston North by a branch railway, and is the outlet for a large area of good agricultural land.

Palmerston North is an inland town at the junction of the Wellington–New Plymouth and the Palmerston–Napier Railways, situated on a fine plain in the midst of a most excellent farming district at a point eighty-eight miles from Wellington, and 110 miles from Napier. Its population is now upwards of 6,200. It is lit with gas, and has a good water-supply. A fine bridge across the Manawatu River connects it with the Fitzherbert Block, a tract of rich agricultural land. Nine miles from Palmerston is the Township of Ashhurst, at the mouth of the Pohangina Valley, up which settlement has now extended for a distance of twenty-two miles. Several large farm-homestead association blocks have been selected up this valley.

Feilding, 104 miles from Wellington by rail, with a population of 2,150, is becoming one of the most important towns on the West Coast, as it is the centre of a very fine locality, and the outlet for a large tract of inland country, the forest on which is fast being felled. A coach-road connects it with Birmingham (Kimbolton) and Pemberton, about thirty-two miles distant. On the seaward side for a distance of twenty miles there is also much good agricultural land, extending on the north-west to the Rangitikei River, and including the Township of Halcombe. There are several dairy factories established in the neighbourhood.

Marton, 123 miles from Wellington by rail, with a population of 1,200, one of the earliest of the West Coast settlements, is also the centre of an agricultural country. The Township of Bulls, on the north side of the Rangitikei River, lies between Marton and the coast. From Marton Junction the southern part of the North Island Main Trunk Railway extends up the Rangitikei Valley to Hunterville, a good-sized township in the centre of a grazing district, and from thence as far as Mangaonoho, twenty-three miles from Marton; from there a coach-road has been made to Ohingaiti, beyond the Makohine, where a large viaduct has to be built before the railway-line can be continued. From Ohingaiti the coach-road has been made to Turangarere, and from thence to Tokaanu, on Lake Taupo, in the Auckland District.

Wanganui, situated near the mouth of the river of that name, is the oldest town after Wellington, from which it is 151 miles by rail—the distance by sea being only a hundred and twenty miles. It is the centre of an excellent farming district, and has a considerable trade, and several manufactories. Near the mouth of the river are freezing-works, the meat from which is conveyed by lighters to the large English steamers lying off the mouth of the river. The town is lit with gas, and has a good water-supply. Not far from it are some extensive railway workshops. Altogether it is a thriving place, with a population of about 6,400. The Wanganui River is navigable for a light-draught steamer up to Pipiriki, a distance of fifty-six miles, and for canoes a further distance of eighty miles to Taumaranui. A branch road extends from Pipiriki through the Waimarino Forest to Ohakune, and on to Karioi on the Murimotu Plains, thence by way of Turangarere and Moawhango to Napier.

Crown or Native Lands available for Future Settlement.

Kaitangata, Te Mara, and Kaiparoro Blocks.—These blocks, containing about 58,000 acres of second-class pastoral country, were opened for sale in September, 1893. The lower portions have been taken up and are being settled on, but the balance of the blocks, to the extent of about 35,000 acres, has lately been withdrawn from sale, with the object of having this area more fully explored, back lines laid off, road access provided for, &c. The remaining unsold portions of these blocks will be re-offered when a new scheme of subdivision has been approved by the Land Board.

Tauakira Block.—Situated near Athens, on the Wanganui River; about 26,700 acres. This consists chiefly of country suitable for second-class pastoral occupation, in areas of from, say, 1,000 acres and upwards.

Mangapapa Block.—This block is situated on the east side of the Waitotara River, and contains land suitable for pastoral purposes. An area of about 800 acres will shortly be offered.

Town Land.—Further sections in Raetihi, Ohakune, Taihape, Makuri, and

Levin Townships will probably be opened for sale at Wanganui, Pahiatua, and Wellington on dates due notice of which will be given in the local papers.

About 20,000 acres, known as the Retaruke Block, on the Wanganui River. It is proposed to open this under the small grazing-run system during next summer.

Awarua Block.—Portions of this block are now under survey, and will probably be offered for selection in a few months.

Forfeited Farm-homestead Sections.—A number of farm-homestead sections which have reverted to the Crown in the different Association Blocks in the Wairarapa North and South, Rangitikei, Wanganui, and other counties, are now being prepared for sale, and will be re-offered at early dates under the optional systems of the Land Act.

Due notice of these dates will be given in local papers, and sale lithos, with full particulars, will be published.

Improved-Farm Settlement Lands.

All the available land suitable for holding under the improved-farm conditions has now been allotted, but if any of the sections now held under this system should be forfeited, they will probably be ballotted for amongst applicants in the district who are known to be of good character and likely to make good settlers. If further blocks of suitable land for this system are found, they will be cut up and opened on the same conditions.

Lands Open and Available for Ordinary Selection.

Awarua Block.—Out of the Awarua Block, lying north of Ohingaiti, several blocks, containing over 140,000 acres, have been purchased from the Natives by the Crown. A great deal of this land is of first-class quality, though other parts will be treated as second-class land only—not that the soil is inferior, but because the land is too broken to be worked otherwise than as pastoral country in good-sized holdings. Several blocks have been surveyed; one of 15,000 acres west of Mangaweka, or Three-Log-Whare Township, was opened for sale in 1895, and subsequently another, of 7,500 acres, between the Hautapu and Rangitikei Rivers. A further sale of quarter-acre sections in the Mangaweka Township has taken place, and the Taihape Township has been subdivided into town or suburban lots, of which some have been offered for sale. A block of 12,500 acres lying south-east of Moawhango was opened for application, and this has all been taken up. Further purchases in the Awarua Block, to the extent of about 97,000 acres, have been made, and the surveys are being put in hand.

North of the Kawatau, on the east side of the Rangitikei, a block of 17,173 acres of second-class pastoral country was opened for selection, 2,366 acres of which are still open for sale.

Waitotara.—The Te Ngaue Block, 1,546 acres of second-class pastoral land, is now open for selection.

Waimarino.—Three blocks, containing about 10,000 acres, have had road-lines laid out through them, and are now open for application. A further block of about 46,550 acres, on the Retaruke, Oio, and Kaitieke Rivers, has had roads surveyed through it, and is now open for selection. There is an additional block of 27,000 acres, which is being surveyed, and will be offered as grazing-runs. 32,000 acres at the head of the Retaruke and Makino Streams have also been roaded. The rest of the Waimarino country, containing about 250,000 acres, is more or less broken, and will probably be opened as second-class pastoral country or small grazing-runs, to enable it to be taken up in larger sections.

Rangiwaea No. 2 Block.—Seven sections of an area of 3,193 acres are open for selection in this block, which is situated between Upper Wangaehu and Turakina Rivers.

A large number of forfeited Farm-homestead Sections are now open for selection in the following blocks: Gladstone, Hunterville Nos. 2, and 3, Sommerville, Palmerston North Knights of Labour, Marton Nos. 1, 2, and 3, Pohangina and Umutoi, Delaware, Onslow, Pahiatua Nos. 1, 2, and 4, Masterton Reform, Christchurch, Woodville, Mecalickstone, Waiwera, Waimarino, and Dannevirke Centennial.

Pipiriki Township.—Leases of forty-nine allotments for the term of twenty-one years, with right of renewal for a further term of twenty-one years, are open for application by tender.

Tokaanu Township.—Leases of one hundred and seven allotments for the term of twenty-one years, with right of renewal for a further term of twenty-one years, are open for application by tender.

Wharangi (Foxton Sanatorium).—Leases of twenty-three allotments for the term of fourteen years are open for application by tender.

Paparangi Settlement (Johnsonville).— Leases of four allotments are open for selection.

Tongariro, Rangipopo, and Kaimanawa Blocks.—105,000 acres have been acquired by the Crown, but none of it is likely to be taken up for settlement for a long time to come.

"Crown Land Guides" and sale lithographs, giving full particulars of lands open for selection in this Land District, will be forwarded to any one on application to the Commissioner of Crown Lands, Wellington.

Native Lands.

Townships are now surveyed at Pipiriki and Tokaanu, sections in which are open for leasing under "The Native Townships Act, 1895."

The allocation of the Crown's purchases in the Raetihi, Tauakira, Maungakaretu, Mangapapa, Raketapauna, Rangiawaea, Ngaurukehu B., Motukawa Nos. 1 and 2, Te Tuhi Nos. 2 and 4, and Kahakaha Blocks, has been made by the Land Court; and the surveys of the land allotted are in hand, and they should be available for settlement soon after the surveys are completed.

The blocks under lease to Europeans contain about 475,000 acres, the principal being the Murimotu, Rangipowaiau, Owhaoko, Mangohane, and Ruanui, occupied by Mr. Studholme; and the Oroumatua, leased to Mr. Birch. Of others passed through the Native Land Court there are about 526,000 acres which are fit for settlement, the principal being the balance of the Awarua and the Motukawa, Raketapauna, Te Tuhi, and Rangiwera Blocks in the central district, Raetihi in the Waimarino district, Tauakira, and Ohotu, on the Wanganui River. Those not suitable for settlement at present are the Te Hautu, Ohuanga, and Kaimanawa, on the east side, and the Oahukura on the west side, of Tongariro Mountain, containing an area of about 345,000 acres.

The Native lands which have not passed the Native Land Court contain an area of about 140,000 acres, the principal being the Tupapanui, Mairekura, Tawhitinui, and Papahaua Blocks, on and between the Wangaehu and Wanganui Rivers, and some others on the west side of the latter river.

Pastoral and Agricultural Industries.

The pastoral industry is by far the more important, the total area in grass in 1899 being 2,307,820 acres as compared with 105,690 acres under crop. Of the area in crop, 18,668 acres were in wheat, 22,603 in oats, and 38,367 acres in turnips or rape, the rest being in potatoes or other crops.

The following figures will show the average return per acre of grain, for the year 1899: Wheat, 29·48 bushels; oats, 33·94 bushels; barley, 36·19 bushels.

The area in sown grass now exceeds that in any other district in the colony, though the area under crop is very small as compared with either the Otago or Canterbury Districts. In April, 1898, there were 4,054,075 sheep; and in November, 1898, the cattle numbered 238,483, and horses 39,870. The total area in gardens is given as 2,348 acres; in orchards, 3,816 acres; and in plantations, 3,198 acres.

Dairy Industry.

Both soil and climate are well adapted for the production of butter and cheese, and hence we find creameries and butter-factories increasing in number very considerably each year, and the export constantly augmenting.

Eighteen butter- and cheese-factories were returned in April, 1896, as at work in the Wellington Provincial District.

Phormium Tenax.

The principal flax-mills working are at Featherston, Carterton, and Martinborough, in the Wairarapa, and at Foxton on the West Coast. This industry fluctuates greatly, in accordance with the price ruling for the dressed article. In 1896 thirteen mills were at work, employing 207 men and 35 boys; the machines driven by water-wheel or engine working up to 124-horse power.

Timber Industry.

Sawmills are to be found in different parts of the district where the means of communication are sufficient, the timbers cut being principally totara and red pine, both of which are largely used in house construction and other works. Others of the native woods are very beautiful, but are utilised only to a small extent.

The principal mills are at Pahiatua, Eketahuna, Masterton, and Carterton, in the Forty-mile Bush and Wairarapa districts, and at Levin on the West Coast, besides which there are several mills in Wellington for dressing the rough material. In the whole district there were in 1896 sixty-four mills, of an aggregate of 1,117-horse power, engaged in this industry, employing 975 hands, the output of sawn timber being 34,605,504 ft., and the total value, including posts and rails, resawn timber, doors, sashes, &c., £157,107, which, next to Auckland, is the highest for any provincial district in the colony.

THE MARLBOROUGH LAND DISTRICT.

C. W. Adams, Chief Surveyor.

Boundaries.

The Marlborough Land District, occupying the north-east corner of the Middle Island, and containing about 2,635,000 acres of land, is bounded generally on the north and east by Cook Strait and the East Coast as far as the Conway River; thence by that river to near its source; from this point, by straight lines, rivers, and the summits of watersheds to the western side of Tennyson Inlet, Pelorus Sound. From the Conway to Pelorus Sound it abuts on the Land District of Nelson.

The widest part of the district is from Cape Campbell to Tophouse, a distance of about sixty-seven miles, and the extreme length from Cape Jackson to the Conway is 120 miles.

Physical Features.

The district throughout is generally mountainous, but none even of the highest peaks are covered with perpetual snow, although Tapuaenuku, the highest of the Inland Kaikouras, attains an altitude of 9,462 ft. Of the Seaward Kaikouras, or Looker-on Mountains, the highest points are Kaitarau and Whakari, which are 8,700 ft. and 8,500 ft respectively. There are several lesser peaks, from 4,000 ft. upwards.

The view from Kahautara Bluff, south of Kaikoura Settlement, looking northwards, when the Looker-on Mountains are snow-capped, is said to be one of the finest in New Zealand.

Geologically, the district may be briefly described as follows: North of the Wairau River the rocks belong chiefly to the Upper and Lower Devonian series, with a belt of Silurian between them, embracing the country along the west of Queen Charlotte Sound to Cook Strait. Within these series auriferous deposits are found, and at present worked at Mahakipawa, Wakamarina, and Wairau Valley. In Endeavour Inlet an antimony-mine has been worked for some time. The country south of the Wairau River may be said to belong chiefly to the Carboniferous Age, with patches, along the coast and up the Clarence Valley, of Cretaceo-Tertiary and Lower Greensand formations; while along and between the Awatere and Clarence Rivers volcanic formation and numerous intrusive dykes occur. The Red Hills also, at the head of the Wairau Valley, are of volcanic origin.

Coal has been discovered in the neighbourhood of Picton, and in the Clarence Valley, but none has been as yet successfully worked within the district. A narrow belt of Tertiary limestone, suitable for building purposes, extends, with small interruptions, from Cape Campbell to the boundary of the Canterbury Provincial District. The Marlborough land may be divided into three classes: Open land, generally covered with associated grasses; forest-land; and intermediate, or land partly forest, partly covered with scrub, fern, or other rank vegetation. This original condition of the soil naturally gave rise to a localisation of industries, and a very unequal distribution of settlement. Thus the open country was taken up for pastoral purposes; in the forest country the timber industry was developed, and the intermediate land passed into the hands of farmers. Though agriculture is now extending into the pastoral and forest country, and considerable areas of forest-land have been cleared and laid down in grass, the portions of the district characterized by these respective industries are still well defined.

In the northern part of the district, bounded by Cook Strait, numerous deep fiords and bays run far into the land. The principal of these are Pelorus and Queen Charlotte Sounds, Tory Channel, Port Underwood, and Port Gore.

These Sounds are very picturesque, but the hills surrounding them are not so rugged and precipitous as are those of the thirteen celebrated Sounds on the west coast of Otago and Southland.

Though generally steep, the land is not too rough to be used for pastoral purposes, and nearly all the land in the Sounds is occupied by thriving settlers.

Pelorus Sound, the most extensive and picturesque, is thirty-four miles long, following the course of the main channel, with the Town of Havelock at its head. There are many bays and inlets branching off in all directions; the largest of these is Kenepuru Sound, fourteen miles long. Pelorus Sound, including its branches, has a shore line of over 300 miles in length, not counting islands.

Queen Charlotte Sound is the next in length, being twenty-eight miles from its entrance to its head; it also has many bays and inlets, one of which is Picton Harbour, twenty-five miles from the entrance.

Tory Channel is ten miles long, and forms the most direct line of communication between Picton and Wellington. The distance from Wellington Wharf to the entrance of Tory Channel is about forty miles, and about twenty more to Picton.

The shore-line of Queen Charlotte Sound and Tory Channel is over 200 miles in length. The entrance of Queen Charlotte Sound is about twenty miles distant from that of Pelorus Sound, and this latter is about twelve miles from the French Pass. Generally there is deep water in all the sounds and bays, and good anchorage can be found near the shore. The country is hilly everywhere in the neighbourhood of the Sounds, the highest point being Mount Stokes, 3,943 ft. above sea level.

Rivers.

Four considerable rivers, the Wairau, Awatere, Clarence, and Conway, rise towards the western boundary of the district; the two former, running east and north, fall into Cook Strait; the two latter, taking a southerly and easterly course, discharge into the sea on the eastern side of the Island. These rivers water large and fertile valleys, but none can be entered by vessels except the Wairau, which is navigable for small steamers for about ten miles from its mouth.

Plains.

The Wairau Plain, containing about 65,000 acres, on which stands Blenheim, the capital of Marlborough, is the principal block of agricultural land within the district. The soil, generally good, is, on the lower or seaward side of the plain, extremely fertile, especially in the neighbourhood of Tua Marina, Spring Creek, and near Blenheim, which is surrounded by numerous gardens, with rich deep mould, and well sheltered with trees. The average yield of wheat for the plain is about 25 bushels per acre; of oats and barley, 35; of peas, 30; and of potatoes, 10 tons per acre. Hops have been successfully grown for many years in the neighbourhood of the town, but, owing to the high price of labour, their cultivation has not extended. The plain, traversed in all directions by good macadamised roads, and dotted over with numerous comfortable homesteads, standing in clumps of trees amidst well-cultivated fields, has already an old-world appearance. More than half the population of the Marlborough Land District—12,677, according to the last census—is centred in the Town of Blenheim and on the Wairau Plain. Besides this plain there are several thousand acres of terrace flats and valleys along the larger rivers, notably at Starborough, on the Lower Awatere, all suitable for closer settlement, and capable of sustaining a large population.

Lakes.

There are not any lakes worthy the name. The largest is Kapara te Hau, more familiarly known as Grassmere, situate on the coast between the Awatere River and Cape Campbell. It is about three miles in diameter, and very shallow, being, indeed, no more than a lagoon, as during a dry season there is little or no water in it.

There are two other lakes of small size, viz.,—Lake Elterwater, four miles south of Lake Grassmere, and Lake McRae, situate in the open country between the Awatere and the Clarence Rivers.

Forests.

The portion of Marlborough north-west of the Wairau River, extending to the boundary of the Nelson Land District, and including the County of Sounds, in all about 280,000 acres, was originally covered with dense forest. In the valleys and on the lower hill-slopes, rimu, kahikatea, matai, totara, miro, and tawa were the principal forest-trees. The higher portion of the hills and steep spurs are clothed with the various species and variety of birch (beech), to which along the shores of the Sounds were added pukatea and kohekohe, the latter locally called cedar.

Since 1860 sawmills have been at work in various parts of the district. Thirty-two mills have been erected, and have worked for longer or shorter periods. Havelock, on the Pelorus Sound, is at present the headquarters of the timber trade.

The hills along the shores of the Sound will, for many years, furnish birch sleepers. There are other timbers left in places, but nowhere sufficient to justify the erection of a mill, unless pukatea wood, hitherto neglected, could be utilised. It is a light, tough timber, well adapted for boat-building and for packing-cases. The quantity of pine timber remaining in the Kaituna and Onamalutu Valleys is small, but there is a good supply of birch and other wood, suitable for fencing and firewood. On these valleys the Wairau Plain is mainly dependent for timber.

The Pelorus Valley, with its tributaries the Wakamarina, Rai, Ronga, and Opouri Valleys, still contain about 300,000,000 ft. of convertible timbers, exclusive of the birch, of which there is a large amount of the best quality on the hills and terraces. The Wairau, Blenheim, and other districts extending southwards must depend for the future on this source for all their building material.

In the neighbourhood of Kaikoura, along the base of Mount Fyffe, and in the Hapuku Valley, there is another small block of forest-land in which three small sawmills have been erected. The quantity of timber suitable for sawmill purposes in this block is very limited, but it will furnish the neighbouring country with firewood and fencing for many years.

Soils and their Uses.

The Wairau Plain, which is the principal block of agricultural land, has been already dealt with. The second agricultural centre is in the neighbourhood of Kaikoura. The land extending along the base of Mount Fyffe, between the Kohai and Hapuku Rivers, about 13,000 acres in extent, is held in small or moderate-sized farms; the soil is good, the block known as "The Swamp," between Mount Fyffe and the Peninsula, being particularly rich. In the Pelorus, Kaituna, and Onamalutu Valleys, and in the Sounds, settlers following in the wake of the sawmills have already converted much of the land worked over into grazing-farms. The land is of three descriptions—alluvial flats, terraces, and hill-sides. On the flats in the larger valleys the soil is rich, producing heavy crops of oats, peas, beans, and potatoes, wherever it has been brought into cultivation. The terrace-land varies much in quality, but generally grows good grass, as do also the hills on which tawa formerly grew; the birch country being very barren. On the small bush-farms cattle-grazing is the chief pursuit. Out of 14,000 head kept in Marlborough, 7,000 belong to the forest country.

Grazing.

About 1,680,000 acres of the Marlborough Land District are at present devoted to keeping sheep. The leaseholds in the northern parts of the district contain a large extent of scrub- and fern-covered country, now producing little or no food for sheep, but capable of improvement. The total number of sheep depastured is 849,738, distributed as follows amongst the counties into which the land district is divided: Marlborough County, 515,437; Sounds County, 145,726; Kaikoura County, 188,575. On the natural pasture of the open country merino sheep are kept almost exclusively, the land carrying from half to one sheep per acre. In the forest country, on sown grass, the land keeps from two to four crossbred sheep per acre. Along the shores of the Sounds large areas of hill-land have been taken up on lease, and are now being cleared and laid down in grass expressly for keeping sheep, but generally throughout the forest country the holdings are small or of moderate size, hence this is, after the Wairau Plain, the most populous portion of the district. The export of wool during last year amounted to about 12,000 bales.

Industries.

Gold-mining has been carried on for some years, principally at Mahakipawa, Wakamarina, and Wairau Valley. At present not much gold is being obtained, although there are now strong indications of a great improvement in the gold-mining industry.

There are two dredges at work in the Wakamarina River, results not yet known. Several companies have taken up dredging claims on the Wakamarina and Pelorus Rivers. Operations on the Canvastown Flat have been tried by prospecting only.

Seven sawmills are at work within the district: one at Kaikoura, and the others in the Pelorus, Kaituna, Onamalutu, and Pukaka Valleys, and in the Pelorus and Queen Charlotte Sounds. The principal one is Messrs. Brownlee and Co.'s, in the Pelorus Valley, the output last year being about 3,700,000 ft. Messrs. Brownlee and Co. have forty-seven men employed, and keep two vessels running between Havelock and Lyttelton.

During the year there has been a revival of the flax industry. Fourteen mills have been started or reopened. The quantity of hemp shipped during the year was 2,843 bales and 344 bales tow.

In connection with one of the mills, a rope-factory has been established, in which binder-twine made of short flax or tow is the main product.

There are two flour-mills at work—one at Spring Creek, near Blenheim, owned by Messrs. Redwood Bros. This is a complete roller-mill, driven by water-power, and can turn out about 14 tons of flour in twenty-four hours. It is electric-lighted, and the sack-working machinery is driven by electric motor. The other mill, which is also worked by water-power, is Mr. T. Carter's, at Blenheim. The output of the two mills last year was 1,170 tons of flour and 430 tons of bran and sharps.

There is a dairy factory at Spring Creek which contains all the latest improvements in machinery; 11¾ tons of butter were produced in 1898.

There is a first-class cheese-factory at Tua Marina. The output last season was 61 tons, but the factory is capable of turning out 80 tons. There is also a good cheese-factory at Kaikoura.

Climate.

Marlborough possesses one of the finest climates in the world; and at Blenheim it is fine weather nearly all the year round. There is almost a total absence of the boisterous winds that so frequently visit Wellington.

The original distribution of the open and forest lands was entirely due to climatic causes. At Cape Campbell, one of the barest places in the district, the annual rainfall is only 23·25 in.; in the Pelorus Valley, the centre of the forest country, it is over 65 in. This difference between the climates of the north-western and south-eastern portions of the district explains why the artificial pasture-land, when compared with the natural pasture, supports such a large amount of stock. Winter and spring are the wettest seasons, hence the dry climate is not unfavourable for agriculture. Wherever the soil is suitable, crops sown in winter and harvested in early summer can be successfully grown. Everywhere near the coast the range of temperature, considering the latitude, is very small. The thermometer seldom falls below 30 deg., or rises above 78 deg. Along the shores of the Sounds the mildness of the winter, owing to the curious distribution of land and water, allows lemons, oranges, passion-fruit, figs, and other sub-tropical fruits to be grown in favourable situations. On the lower hills and terraces of the forest country the chestnut (*Castanea vulgaris*) grows rapidly, and commences to bear fruit in five or six years. A few trees planted in the Pelorus Valley some twenty years ago are now yielding annually about 2 cwt. of nuts a tree. In all parts of the low country the common English fruit-trees—apple, plum, pear, cherry, &c., yield abundantly, the fruit, owing to the clearness of the atmosphere, being of excellent quality. In the high country, where snow falls occasionally during winter, red, white, and black currants can be produced in such quantities that with little labour they might be made an article of export to the warmer parts of Australia.

Towns.

The chief town, Blenheim, is situate on the Wairau Plain, at the junction of the Opawa and Omaka Rivers—a third river, the Taylor, would join at about the same point were it not that when not in flood it disappears beneath the surface, about three miles south of the town. Blenheim has been termed a miniature Christchurch, doubtless from its extreme flatness. Considering this, its streets are not so straight and wide as they should be. The Government Buildings, which comprise the Post and Telegraph Offices, Lands and Survey Offices, Courts of Justice, &c., form a handsome edifice in the centre of the town, which is well planted with deciduous and evergreen trees. It is about eighteen miles and a half from Picton by rail, and about nine miles from the sea by the Opawa River, which is navigable for small steamers. Blenheim is lit with gas, and supplied with water, principally by artesian wells. The population is about 3,200.

The next town in importance is Picton, the principal port, only fifty-three miles by sea from Wellington. This little town, both in position and appearance, may be said to be the antithesis of Blenheim, being most picturesquely situated at the head of Queen Charlotte Sound, and nestling among hills, some of the higher ones still densely covered with birch and other forest. There is frequent communication with Wellington and Nelson by steamers averaging 500 tons, and vessels of 1,200 tons can lie at the wharf at low-water, where there is a depth of 25ft. Vessels of the largest tonnage can approach within half a mile. The direct exportation of frozen meat from Picton commenced in 1892, when 16,433 carcases were shipped. Last year the Wairau Freezing Company exported from Picton for the year ended 31st March, 1899, mutton, 15,572 carcases, and lambs, 14,067 carcases. Picton possesses a malting establishment also, producing for export, as the excellent quality of the barley grown on the Wairau Plain insures a ready market. A small quantity of oysters, mostly procured in Queen Charlotte Sound, is annually exported from Picton; with culture the supply might be almost indefinitely increased, many of the sheltered bays in both sounds being well adapted for the purpose. What is now being done along the Marlborough coast is a mere trifle compared with what might be accomplished if capital and knowledge were brought to bear on the fishing industry. Around the whole coast, from the mouth of the Conway to near the French Pass, the sea abounds in fish. Within the Sounds and amongst the islands of Cook Strait, hapuku, snapper, moki, barracouta, raturi, kahawai, and rock-cod are extremely plentiful. Immense shoals of the southern herring (*Clupea sagax*) and of anchovies (*Engraulis encrasicholus*) frequent the inlets at certain seasons of the year, and quantities of fresh fish are exported from thence to various places within the colony. As steamers arrive at and leave Picton almost daily, shipments can be made without delay to all parts. Picton possesses a good gravitation water-supply. Its population is about 800 persons.

Havelock, situate at the head of Pelorus Sound, is, as has been already stated, the present headquarters of the timber trade, Messrs. Brownlee and Co.'s steam saw-mill, at the mouth of the Pelorus River, being only a mile or so from the town. Between Picton and Havelock there is a mail service twice a week, *viâ* Cullensville, on the Mahakipawa Gold-fields. The population of Havelock is about 400 persons.

The Town of Kaikoura, the greater part of which is built on a raised shingle-beach, is situate at Kaikoura Peninsula, near the southern boundary of the district. The town, with the adjoining settlement of small farms, forms one of the most picturesque spots in New Zealand, lying as it does under the Seaward Kaikouras, or Looker-on Mountains. At the back of the town the peninsula, which is composed of Cretaceo-tertiary limestone, rises abruptly for about 100 ft., and affords splendid sites for dwelling-houses. Kaikoura is connected with Blenheim by a weekly coach service, the distance being about ninety-five miles. There is also direct steamer communication with Wellington and Lyttelton. The population of the town is about 400.

Roads and Railways.

The only railway is that between Picton and Blenheim, about eighteen miles and a half in length. The train, starting from Picton, runs twice a day. The railway has been completed for a distance of three miles south of Blenheim, and it is in contemplation to extend it as far as the Awatere River, which is shortly to be bridged with a railway and traffic bridge at a cost of £22,500, a tender being accepted, which will be a very great boon to the district.

The Main North Road to Nelson, distant seventy-eight miles, is a good metalled road nearly the whole way. It runs up the Wairau Valley from Blenheim for about six miles, crosses the Wairau River into the Kaituna Valley, which it follows as far as Havelock—about twenty-eight miles. It then runs up the Pelorus and Rai Valleys, and ascends by easy gradients to the Brown Saddle, where it crosses the boundary into Nelson. An excellent coach-service—probably the best in the colony—has been established for some years, the coach running to and from Nelson on alternate days, covering the distance in eleven hours, and another bi-weekly coach-service has lately been established between Blenheim and Havelock.

The Main South Road, running over the Taylor Pass into the Awatere Valley, and through the Starborough, Flaxbourne, Kekerangu, and other properties, connects Blenheim with Kaikoura and the south, and is a good road during dry weather, although it might be much improved in places.

The portion between the Clarence River—over which a fine bridge was built some years ago—and the Hapuku River, runs along the coast under steep and picturesque hills covered with forest. During the last two years a road has been in course of construction to the south of Kaikoura, between the Kahautara and Conway Rivers. This road will be completed within the next few months, and when finished will form part of the main Cheviot–Kaikoura Road, and, besides its great usefulness in opening up the country through which it passes, will also become a favourite route for tourists, as in many places it passes through most picturesque scenery.

A good road has been formed up the Wairau Valley, passing through the Bank-house, Erina, Lansdowne, Hillersden, and Birch-hill properties, and connecting with Tophouse, just outside the boundary, and distant fifty-six miles from Blenheim. At Tophouse there is an hotel and a telegraph-station, and from thence a good road leads to Belgrove, the present terminus of the Nelson Railway.

A coach runs twice a week between Blenheim and Wairau Valley—twenty-five miles—where there is an hotel, a post- and telegraph-office, and one or two stores.

There is also a good cart-road running up the Awatere River—which it crosses and recrosses several times—as far as Molesworth Station, about seventy miles from Blenheim. Between these points there is a weekly coach- and mail-service.

There are other minor roads and bridle-tracks throughout the district too numerous to specify.

Crown Lands.

The area of Crown lands at present available for settlement is about 200,000 acres, but of this area 135,000 acres are of very poor quality, being chiefly the summits of high, rugged country. The balance of available area lies principally in the Pelorus, Rai, and Wakamarina Valleys, and in the Sounds, and will doubtless be readily taken up when thrown open for selection.

THE NELSON LAND DISTRICT.

T. Humphries, Chief Surveyor.

General Physical Description.

The Nelson Land District comprises the north and north-western portion of the Middle Island, the greater part being high and mountainous, and on the western and inland ranges covered with dense forest to the bush-limit, at from 4,000 ft. to 4,500 ft. Cape Farewell, the northernmost point, is situated at the western entrance of Cook Strait, on the south side of which lie Golden or Massacre Bay, and Tasman Bay, more commonly called Blind Bay. The former derives its name from the massacre of a boat's crew belonging to Tasman, who visited it on the occasion of his discovery of New Zealand in 1642. At the head of the latter, which has a depth of fifty-four miles from its entrance, stands the town of Nelson. From Separation Point, on the western side of Blind Bay, a range of mountains from 3,000 ft. to 4,000 ft. in height extends southward to Mount Murchison. It consists of a granitic formation, with slate, limestone, and sandstone belts. From Pelorus Sound, on the east, commences another range—a portion of which is serpentine, forming a mineral belt immediately south of Nelson City. It reaches an elevation of 6,000 ft., and runs in a south-westerly direction to the St. Arnaud Range, terminating in the Spencer Mountains, a large central mass attaining a height of 8,000 ft. above the sea-level. To the westward of the Spencer Ranges and those on the further side of Blind Bay are the Brunner, Lyell, Marine, and Tasman Mountains, from 5,000 ft. to 6,500 ft. in height. Still further westward along the coast are the Paparoa, Buckland Peaks, and Papahaua Mountains, about 4,500 ft. at their highest point, and the Whakamarama Range, extending from Rocks Point to Cape Farewell. There are also a number of isolated mountain-masses here and there through the district.

The inland Spencer Mountains are the source of the principal rivers of the district south of the Buller River, and are thus described by Sir Julius von Haast: "On the southern slopes of this wild alpine-stack we find the principal sources of the Grey, or Pohaturoha; on its north-east side the sources of the Wairau; on its eastern side those of the Acheron and Clarence; and in the deep recesses of these snow-clad giants those of the Waiau-ua, or Dillon: so we may say that, with the exception of the Takaka and Aorere, which fall into Massacre Bay, the Wangapeka and Motueka, which run into Blind Bay, the Karamea and smaller streams, which reach the sea on the West Coast to the north of the Buller River, all the rivers of any size in the northern part of this island take their rise in this magnificent chain."

Rivers.

The Buller River (Kawatiri) has its source at a point about sixty miles south-west from Nelson, where it flows out of the beautiful alpine lake Rotoiti, lying 1,800 ft. above sea-level at the foot of the lofty St. Arnaud Range. This river breaks through the massive mountain chains of the interior in a transverse or easterly direction, forming, where it receives no tributaries, a succession of magnificent rocky gorges, and, after a course of about one hundred miles, finally discharges its waters into the ocean on the West Coast. The Gowan River, a tributary, has its source in another exquisite lake, Rotoroa, 1,623 ft. above sea-level. Other tributaries of the Buller are: the Matakitaki, Maruia, Owen, Matiri, and Inangahua, all of which take their rise in the snowy ranges.

The Grey River (Mawhera), also discharging its waters on the West Coast, takes its rise in Lake Christabel, near the western flank of the Spencer Range. It has a very large basin, and numerous tributaries, of which the Ahaura is the chief.

The rivers on the eastern side, named above as taking their rise in this district, flow for the most part through mountain ranges and open valleys utilised as pastoral land.

Lakes.

The lakes of the district are alpine in character, surrounded by grand mountain and bush scenery. The principal are: Rotoiti, lying east, and Rotoroa south-east, of Mount Murchison; Matiri, to the west of Owen Range, 980 ft. above the sea; Lakes Tennyson, 3,614 ft., and Guyon, 2,658 ft., on the eastern flank of the Spencer Mountains; Lake Christabel, on their western flank; Lake Hochstetter and Lake Sumner, the latter 1,725 ft. above sea-level, lying under Mount Emerson (6,000 ft.).

Plains.

The plains of this district are limited in extent, the principal being the Amuri, in the valleys of the Hurunui and Waiau-ua, in the centre of which rises a partly isolated mass of hills called the Percival Ranges, the highest peak of which is Mount Percival, 5,335 ft. These plains, being well covered with native tussock-grass, were either purchased or taken up with pre-emptive rights as pastoral land very soon after the commencement of the settlement. The Waimea Plains, near Nelson, with the Lower Motueka, Riwaka, and Takaka Valley lands, formed part of the original settlement of the New Zealand Company, and are occupied mostly by small settlers. Inland are the Tiraumea Plains, 1,100 ft. above sea-level, and the Maruia, 1,300 ft. These are, together, about 30,000 acres in extent. They are surrounded by high mountains heavily timbered, and the land is of only second-rate quality. On the West Coast the level lands are Totara Flat and Ikamatua Plains, in the Grey Valley, Mawhera-iti, and Inangahua Valleys, lying on the eastern flanks of the Paparoa coastal range. There are also open *pakihis* at Addison's Flat, on the south side of the Buller, and low swampy lands on the north side; northward is the heavily timbered country of the special settlement at the mouth of the Karamea.

Forest.

The area of the district is estimated at about 7,000,000 acres, of which the area of open land under 2,000 ft. in altitude is, approximately, 1,835,000 acres; the area of forest-land under 2,000 ft., about 1,745,000 acres; open land over 2,000 ft., about 1,470,000 acres, including summits. The forest-lands may be approximately estimated at 3,290,000 acres, including good forest, mountain-forest, timber patches in gullies, &c. Of this area probably about 1,000,000 acres would be the utmost available for clearing. The timber on the western side consists of red- and white-pine, matai (or black-pine), totara, kawhaka (or cedar), rata, and occasional silver-pine, besides black- and red-birch (*Fagus fusca*). These varieties are also found, but in smaller areas, on the eastern side; birch preponderating. A large amount of timber is used in the mining industry for props and planking, and throughout the districts generally for shingles, fencing, firewood, sleepers, &c. There are forty-two sawmills at work, with an output of about 12,000,000 superficial feet per annum.

Agricultural.

Nelson has little land suitable for agriculture, most of it already taken up. On the Waimea Plains is grown excellent barley, a small quantity of which is exported. Oats and chaff are sent in large amounts to the West Coast and elsewhere. Hops also form one of the chief exports. Wheat, maize, rye, and root-crops of most varieties are grown, and fruit is plentiful. The weekly wage of a farm-labourer is 20s. with board; without board he would receive 5s. a day. Ploughmen can get 20s. per week with board; without, 7s. 6d. a day.

Pastoral.

The total area of pastoral lands held under the Crown by 114 tenants on the 31st March, 1899, amounted to 988,586 acres. As the agricultural land is limited, settlers are turning their attention to the timbered mountain-slopes for grazing purposes. These, when the timber is felled and burnt, and the ground sown with suitable grass, will, after three to four years, carry about two sheep to an acre on fair soil, and more on the limestone country. The cost of felling and burning green timber is from 15s. to 20s. per acre; cost of mixed grass-seeds and sowing, about 15s. per acre; and a good paling-fence on ordinary bush-lands with double No. 8 wires at top and bottom, with ½ in. palings and 7 in. posts sunk 2 ft. in the ground, can be erected at about 12s. per chain.

Mining.

The western side of the Nelson District was a *terra incognita* till about the year 1863, when gold was first discovered in large quantities. Miners flocked in at first from the other goldfields in New Zealand, then from Australia, California, and other parts of the world, until in 1865 the whole coast-line was peopled from Broken River in the north to Jackson's Bay in the south. Mining, at first altogether alluvial, developed into quartz-reefing, and hydraulic-sluicing of large areas. The agricultural lands about the Grey and Inangahua were taken up and cultivated; and, as mining became a more settled industry, the miners occupied and tilled the non-auriferous alluvial flats in the many valleys: hence at the present time a number of homesteads are scattered throughout the district.

Reefton and its neighbourhood forms one of the chief quartz-mining districts in New Zealand; and the West Coast, including Westland, has produced about 45 per cent. of the total gold raised in the colony. The oldest alluvial field is at Collingwood. Among other minerals found in the district are: silver, copper, chrome, antimony, manganese, and hæmatite. Extensive deposits of coal are found on the West Coast, within the areas of the Grey and Buller Coalfields Reserves. Coal is also found in Collingwood, in Blind Bay, and in West Wanganui Inlet; and there are numerous smaller areas of coal-bearing strata here and there throughout the district. The output from the mines at work within the district during the year ending 31st December, 1898, was 465,253 tons, of which 456,493 tons were shipped, 340,193 tons from Westport and 116,300 tons from Greymouth. Copper-ore is found in a serpentine rock-formation near Nelson, but the companies which have worked the ore have not hitherto been successful—the last one, "The Champion," failing from want of sufficient capital. Deposits of chrome-ore are also found here. Silver-ore has been worked in the Collingwood District; and at Parapara, in Blind Bay, there are widespread deposits of hæmatite iron-ore, combined with limestone and coal, waiting only for capital to develop them. There is also a small industry in flax. It will be readily gathered from the above brief description that mining is the chief industry of the Nelson District. A great impetus has been given to the mining industry on the West Coast, in a manner similar to that which has taken place on the Auckland goldfields. In the Reefton district a large English syndicate has bought out several properties of quartz-mining companies, which have been paying concerns, although worked with limited capital and old-fashioned machinery, with the view of introducing the newest methods of working and the most improved gold-saving appliances. A number of wealthy syndicates are now in the field, and a great revival has taken place in prospecting for new reefs, and in developing numbers of others known to be auriferous, the working of which has hitherto languished for the want of capital to develop them.

The timber industry on the West Coast has now become a very important trade. During the past year about 11,000,000 ft. of various kinds of wood, principally red and black pine, have been cut in this district alone for export, and silver-pine has been largely in demand for railway-sleepers for home consumption.

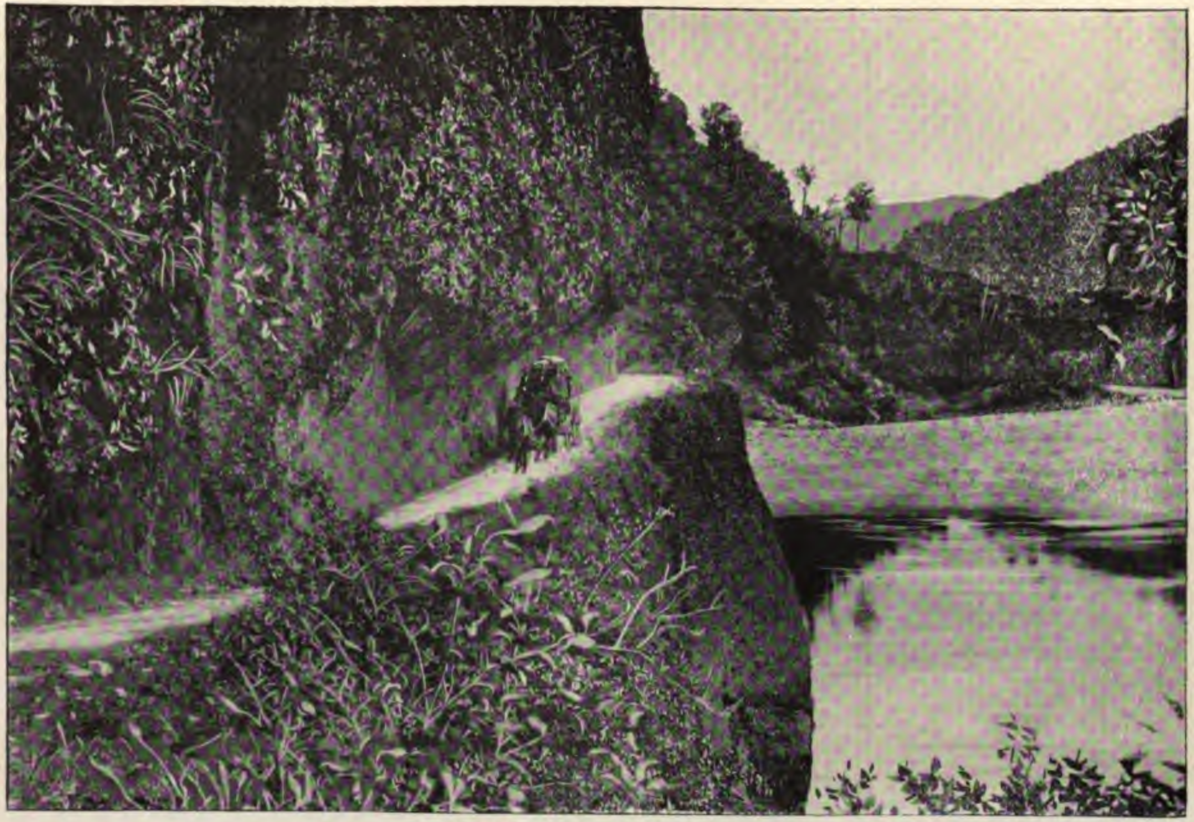
Towns.

The chief town is Nelson, situated at the head of Blind Bay, in 41° 16′ S., and surrounded on all sides, except the north, by mountains reaching an elevation of

3,500 ft. With a mean temperature of 54·8° Fahr. it possesses a climate almost unequalled for its beneficial effects on invalids suffering from pulmonary diseases. There are many picturesque spots in the suburbs, and the town itself, with its cleanly-looking buildings and well-kept gardens, is one of the most charming spots in New Zealand. There is an old-established Boys' College, and a High School for Girls, besides Government and other schools. The Anglican Pro-Cathedral, built on the summit of a central hill, memorable as being the site of fortifications erected in the early days of the settlement for defence against an expected attack of the Natives, is a striking feature. The Roman Catholic Church, Convent, and school-buildings cover a large extent of ground. There is also at Stoke, a small village three miles from Nelson, a central Catholic Orphanage, surrounded by grounds of considerable area. There is a good supply of excellent water from a reservoir in the hills at the back of the town, and the streets are well lighted with gas. The several Government departments are housed in one roomy building, containing a large hall used for Supreme Court sittings and other public purposes. Nelson has a small natural harbour, formed by a boulder-bank running for eight miles parallel to the shore, deep enough at high tide to admit vessels of 1,000 tons burden. It is a port of call for the Union Steamship Company's coastal steamers, and has a small local fleet plying between the West Coast, Blind Bay, Picton, and Wellington. The town is reached from the eastward by a good main road from Marlborough. A railway-line has been constructed up country to the southward for thirty miles, passing through the farming villages of Stoke, Richmond (borough), Brightwater, Wakefield, Foxhill, and Belgrove. Leaving for the West Coast by a good main road, the traveller starts from the Belgrove Station on one of Cobb and Co.'s coaches, crosses Spooner's Range, the Clarke and Hope River saddles, and enters the Buller Valley at the junction of the Hope, about sixty-seven miles from town. He then enjoys a succession of views of mountain-gorge scenery, and, after traversing a gorge of seventeen miles in length, arrives at the Lyell, 107 miles from his starting-point. This is an alpine township, in a small quartz-mining neighbourhood. Here is a fine cast-iron girder bridge, spanning a rocky gorge of the Buller, and springing boldly from a bluff on the northern side. At 116 miles the junction of the Inangahua with the Buller is reached, the main road continuing to Reefton, with a branch road twenty-eight miles to Westport, which for twelve miles passes through some of the grandest river-gorge scenery in New Zealand.

Westport, the town next in importance to Nelson, is situated at the mouth of the Buller River. The harbour is sheltered from southerly gales by Cape Foulwind and its outlying rocks, and is accessible in nearly all weathers. A large sum has been spent on a system of harbour-works, designed by the late Sir John Coode. Westport is the place of shipment for the coal-mines lying northward as far as the Mokihinui River. The character of this coal for steam purposes stands almost unrivalled. The long line of coal-staiths on the northern bank of the river, with a fleet of steam-colliers loading alongside, does not fail at once to impress a visitor with a sense of the importance of the trade. Though much has already been done, yet the industry, from the extent of the coal-bearing strata, is capable of much larger expansion when the necessary capital can be found. The Westport–Ngakawau Railway to Mokihinui, connects with the mines and conveys the coal to the port. At the foot of the Mount Rochfort plateau, nine miles from Westport, is Waimangaroa, and on the plateau itself is Denniston—both coal-mining villages. The latter, built at an elevation of 1,960 ft., is said to be the highest township in New Zealand. On a clear day it is well worth a visit, for the sake of enjoying the magnificent panoramic view of the southern Alps, which reach their highest point in Mount Cook, 12,349 ft. high, about 100 miles south. South of Westport are the alluvial gold-mining centres of Addison's Flat, Croninville, Nine-mile Beach, and Charleston.

From the Inangahua Junction, the main road continues southward through the Inangahua Valley, passing through cultivated lands, which are being gradually won from the heavy bush, and at a distance of 136 miles from Nelson reaches the township of Reefton. Here, as at Westport, are good hotels, and, as in every one of the *larger coast towns*, a hospital receiving a Government grant-in-aid. This town was



Hawk's Crag, Buller Gorge.

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the first in New Zealand to be lighted by electricity. Through the Midland Railway Company's extension of the Grey–Brunner Government line, Reefton is now connected by rail with Greymouth, from whence it is for the most part supplied. About two miles inland from Reefton is Black's Point mining township, with several batteries at work in and about the place, a visit to which is generally paid by tourists wishing to see something of the gold-mining industry. Other small mining townships are: Boatman's, Capleston, Antonio's, Noble's, Orwell Creek, Hatters', Nelson Creek, and Twelve-mile.

Leaving Reefton by rail, and passing into the Grey Valley through a short tunnel, and by a bridge over the Grey River, Totara Flat is reached, nineteen miles distant. Here there is a considerable area under cultivation. Seven miles farther on is the decayed mining township of Ahaura. Small townships are springing up along the railway-line, and several large sawmills are working.

At the Grey River Gorge, eight miles from Greymouth, we enter the Borough of Brunner. This place is the oldest centre of coal-mining in the district. Owing to the effect of the coal-smoke from the coke-ovens on the surrounding cliffs and bush, and the appearance of the numerous miners' cottages nestling on the mountain-slopes, it has the look of a veritable "Black Country," such as may be seen in some coal-districts in England.

Several large sawmills are at work between this place and Greymouth, which we reach at a distance of 180 miles from Nelson, the centre of the Grey River from its junction with the Arnold being the southern boundary of the district at this part. The Midland Railway line, to connect with Canterbury by way of Arthur's Pass in the Otira Gorge, has been constructed on the Westland side of the Arnold River to Lake Brunner, the eastern shores of which it skirts for some distance, and from thence to the Teremakau River.

The town of Greymouth is situated on the south bank of the Grey River, in the Westland District, and is the shipping-port for the products of the coal-basin included within the area of the Grey Coalfields Reserve, the larger portion of which lies on the north bank of the river in the Nelson District.

The small town of Cobden is situated opposite the town of Greymouth, and is connected with it by a substantial bridge.

Roads, Tracks, &c.

Situate on the coast, fifty miles north of Westport, is the Karamea Special Settlement, principally settled from the Nelson and Motueka Valley districts. This part of the district contains some excellent but heavily-timbered land, and is reached from Westport by a good road, connecting with the Westport–Ngakawau Railway at the Mokihinui River. A bridle-track, also, connecting with Collingwood and Golden Bay, is nearly completed by the Government. This track passes along the coast northwards, thence up the Heaphy Valley to the Golden Downs, and down the Aorere Valley to Golden Bay. Here again is another coal-basin, which, though of inferior value to the older deposits on the western side, is likely to become of importance, having at the present time one mine in full work. Another coal-basin exists at West Wanganui and Pakawau.

In the Aorere Valley, of which Collingwood is the port, alluvial mining is still found to be payable, and the country contains some valuable timber in the upper part not yet utilised. Nineteen miles south, in Blind Bay, lies the small port of Waitapu, from which a considerable amount of sawn timber is exported, drawn from the Takaka Valley, and brought down by a steam tramway from the upper mills. From the head of this valley the main road is carried over a pass in the Pikikirunga Range, 3,476 ft. high, through the villages of East and West Takaka, Riwaka, Motueka, and Moutere to the town of Richmond, eight miles from Nelson. Inland are also the villages of Ngatimoti, Dovedale, Tadmor, and Sherry, each the centre of a number of small farms, and all connected by fairly-good dray-roads.

An inland road, partly bridle-track and partly dray-road, has been made from Nelson to Canterbury, by way of Tophouse, Wairau Gorge, Tarndale, Clarence Valley, Jollie's Pass, and the Waiau Plains. On the Hanmer, a tributary of the Waiau-ua, is a Government Sanatorium, at an elevation of 1,000 ft. above sea-level, and among hills 6,000 ft. high. Here there are hot mineral springs, much visited by persons suffering from rheumatism and skin-diseases. It is reached by coach and rail from Christchurch in ten hours. The main-trunk railway-line is constructed to Culverden, twelve miles north of the Hurunui, the southern boundary of the district. From Culverden a good coach-road passes through Rotherham and Waiau-ua to the East Coast at Kaikoura, connecting with Blenheim and Nelson.

Crown Lands.

About 3,000,000 acres of Crown lands still remain unoccupied in the northern part of the Nelson District; they consist principally of high bush-country, with occasional patches of good valley-lands, the greater part being classed as second-class land. Of these, the area open for selection to date comprises 25,148 acres of surveyed lands, and 265,254 acres unsurveyed lands, of which the location, nature of soil, &c., have been briefly described in the foregoing pages.

THE WESTLAND LAND DISTRICT.

W. G. Murray, Chief Surveyor.

The Westland District occupies the central portion of the western watershed of the Middle Island, joining Canterbury on the east; its north and south boundaries with Nelson and Otago being the Grey, Arnold, and Awarua Rivers. The mean length is 200 miles, and its average width 24 miles. The area is 4,759 square miles, composed, for the most part, of the great central snow-clad mountain chain and its out-running ranges, intersected by narrow bush-clad valleys, and subsiding westward into undulating plateaux, river-straths, and shelving coasts.

Physical Features.—Mountains.

The great dividing range which constitutes the eastern boundary from Harper's Pass to Mount Aspiring presents a magnificent façade of snow- and ice-clad summits, representing every aspect of mountain grandeur, such as spires and battlements of rock protruding from ice and snow; precipices of enormous height, with cascades; drifted expanses of snow-fields, feeding glaciers; cañons, and ravined foot-hills covered to the top with forest.

Rivers.

A few of these lead from the foot-hills, and are of small volume; the others are snow-born streams descending from the central range, at first in narrow gorges amongst the mountains, but spreading widely on reaching the sea-board country. They are shallow shingly streams in winter, but swift deep rivers in summer. In the northern district all the larger rivers are bridged; and southward, ferries are placed on all the main streams, which, from the melting of the snow, are practically unfordable from September to January.

Forests.

Generally speaking, the whole of the district is covered with dense forest, from the sea-beach to the grass-grown tops of the high ranges, even the gaunt, broken mountain-faces being wrapped with exuberant foliage. The varieties of trees differ considerably according to soil and altitude. Kamahi and rata are the chief timbers, very useful for firewood, and, spread over the whole country, constitute an almost inexhaustible supply. Rimu is the chief milling timber, and this also is widely distributed from the sea-board to the interior uplands. Valuable stretches of white-pine belt the low-lying depression of the coastal lands, and the same may be remarked concerning the imperishable silver-pine. Clumps of black-pine of good quality are met with, also rarer patches of marketable totara; while serviceable cedars are scattered along the flanks of the inland ranges and all over the lower hills and plateaux. The approximate area of forest equals 2,394,951 acres, of which about 940,500 acres carry timber fit for the sawmill, and some 903,785 acres dwarfed alpine varieties.

Lakes.

A considerable and varied number are dotted over the district, no two being alike, but varying in character: comprising mountain tarns; coastal tidal lagoons; shallow reedy sheets; deep mountain-girt waters—all more or less forest-locked, and presenting every form of lacustrine beauty. In conjunction with their effluents they form valuable water-ways for light transport to adjacent districts.

Soils.

The high pastoral uplands have a coating of rich moulds, and this continues fairly good down to the heavy timber lands. The alpine forest is readily cleared, burns clean, and imported grasses grow luxuriantly, cocksfoot being the best, as it withstands fire and frosts. The lower flanks of the mountains hold a thinner soil, which at present hardly repays the heavy labour of felling; while the lower heights are somewhat abrupt and unfitted for cultivation. A margin, varying in width, of fertile slopes and fans fringes the bases of the hills, and, having a natural drainage, constitutes an area of excellent agricultural land.

The upland soils of the coastal undulations and terraces are light loams of moderate fertility, which rest upon transported gravels, the drifted accumulations of eroded hills. On these plateaux are numerous "pakihis," or natural clearings, which are mostly extensive tracts of swampy lands, with a peaty soil resting on thin layers of impervious clay, and non-porous gravels, or, in a few cases, on impacted glacial moraines: these formations all overlying loose drifts. The reclamation of these areas is only a matter of time, as the bulk of them are quite drainable.

Stretches of good alluvium border the rivers, streams, and sea-coast, and form the favourite location for settlers.

Climate.

The climate is equable and temperate, remarkably free from storms and fogs; and immediately after bad weather the clouds roll inland, and there is a prevailing clearness of sky. The rain-bearing winds are mostly from the north-west and north-east. The southerly winter gales usually coat the great ranges with snow, which, however, rarely falls below 2,000 ft.

Pastoral Lands.

The total area of pastoral lands amounts to 2,002,577 acres, 103,801 of which constitute high mountain grass districts, the balance, 1,898,776 acres, comprising the ordinary bush-clad country, much of which is quite inaccessible to stock. All over the coastal lands, along the slopes of the lower hills and in the bottoms of the valleys, large herds of cattle are bred and fattened on the dense undergrowth of the forest. The tussock herbage of the high lands is being gradually used by sheep-farmers, and in the near future these natural pastures will support large flocks.

Agricultural Lands.

The agricultural lands comprise some 307,344 acres of forest and 16,440 acres of open surface, such as swamps, grass-grown river-beds and fringes, &c. The bulk of these lands, when cleared of bush, grow abundance of root-crops, especially turnips, which are much used for fattening purposes. The even and moist temperature encourages the almost uninterrupted growth of grass and clover, which are very luxuriant, and favour stock-raising. Oats are also grown abundantly for local consumption, and for the most part are cut into chaff. Year by year the imports of potatoes, fruits, butter, and fat stock are decreasing, owing to increased local production.

Means of Communication.

The district is fairly well provided with means of communication. The railway now extends from Hokitika, *viâ* Greymouth, to Reefton, branching at Stillwater to Jackson, in the Upper Teremakau; and a further extension to Otira is now being constructed. Coaches twice a week connect with Canterbury, *viâ* Arthur's Pass and ply daily between Ross, Hokitika, Kumara, Greymouth, and the neighbouring towns: while once a week a mail is conveyed on horseback southward to Gillespie's

Beach, and once a fortnight to Jackson's Bay. A subsidised steamer runs between Hokitika and the numerous southern ports as far as Jackson's Bay, plying every two months, thus enabling settlers to obtain supplies and to ship their cattle and produce to market. The Government steamer also calls at Big, Jackson's, and Bruce Bays on her quarterly trips from Dunedin. Steamers also trade regularly between Hokitika and Greymouth, and other parts of the colony. The Main South Road, which for many miles skirts the foot of the main range, has been so greatly improved of late years that the traveller can now ride comfortably and safely *viâ* Haast Pass right through into Otago. Numerous bridle-tracks branch from the trunk line to various points, while the large open river-beds likewise give access to the country on either hand. From Jackson's Bay horse-tracks have been made, *viâ* Cascade River and Barn Bay, to open up the southernmost country. Sundry *cols*, varying in height from 1,800 ft. to over 7,000 ft., leading down the central range, have been explored, mapped, and during the summer months are crossed from time to time by experienced mountaineers. Of these depressions, the only sub-alpine saddle is Haast Pass, all the others being liable to blocks by winter snows. A coach-road over Arthur's Pass and a horse-track through Haast Pass have been made. Another bridle-road is also in course of construction across Whitcombe's Pass, but between these points no trans-insular road exists. Tracks have also been constructed giving easy access to the Franz Josef and Fox glaciers, and in the future, as population increases, doubtless tourist and stock tracks will be constructed along many of the intervening routes. From Okarito northward the district is in direct telegraphic communication with the rest of the colony.

Harbours and Ports.

The harbours and ports of Westland are the following:—

Greymouth, twenty-four miles north-east of Hokitika: Extensive harbour-works have been carried out. A breakwater or sea-wall extends some 3,392 ft. seaward from the mouth of the river on the south side, and on the north side 1,125 ft., with internal half-tide training walls, the result being an average depth of water on the bar of 20·9 ft. at high water and of from 8 ft. to 16 ft. at low water. Vessels of 1,000 tons can now come alongside the wharf. There is berthage accommodation of 1,824 ft., with a minimum depth of 12 ft. to 16 ft. at low water. The principal exports are gold, coal, coke, and timber. The number of vessels that entered the port during the year 1898 was: 485 steamers, tonnage 149,400; 29 sailing-vessels, tonnage 4,375: being a total tonnage of 153,775 for the year. The train runs down the wharf, and the coal-trucks, specially made for the purpose, are lifted and emptied into the vessel's hold by means of powerful cranes, of which there are six, with capacities of from 1½ tons to 12 tons, so that every encouragement is given to quick despatch. 116,300 tons of coal and 12,065,000 superficial feet of sawn timber were exported during the year.

Hokitika: Two training-walls have been constructed, the one on the north side being about 2,000 ft. long, while that on the south is 670 ft. The bar is one of shifting sand, and the depth at high water varies from 9 ft. to 15 ft., while inside the depth is from 6 ft. to 22 ft. for three-quarters of a mile up from the entrance. For ten months out of the twelve the port is usually safe for vessels drawing 8 ft. to 10 ft. of water. The berthage space amounts to 1,000 ft., with from 18 ft. to 22 ft. of water. The principal exports are gold and timber.

Okarito, fifty-five miles south-west of Hokitika: A bar harbour, sometimes completely blocked by a high sand-bank thrown up by heavy seas. When open, the entrance is good, with a maximum depth of 10 ft. There is a small jetty about half a mile from the entrance.

Bruce Bay, ninety-five miles south-west of Hokitika: An open roadstead, well sheltered from the south and south-westerly winds by Heretaniwha Point, which juts out fully a mile to the northward. Good anchorage in 18 ft. of water opposite the Green Rock, which stands up out of the water. Good boat-landing with above winds on a smooth sandy beach.

Paringa River, 104 miles south-west of Hokitika: Open roadstead. Vessels coming in and out should give Hauata Reef (off the north head) a wide berth.

There is also a sunken reef, awash at low water, in the middle of the bay, and a dangerous sunken rock just off the south head, two or three chains away, facing a small sandy bay, and right abreast of the trig. station. Vessels lie inside and a little to the northward of this rock, about a quarter of a mile from shore, and are quite safe with southerly winds.

Haast River, 118 miles south-west of Hokitika: A constantly-shifting bar at entrance, which is nearly opposite and a little to the southward of the Alhambra Rock. This rock stands well out of the water, and vessels entering can go on either side with safety. Average depth of water on bar from 6 ft. to 8 ft.

Okuru and Turnbull Rivers, 138 miles south-west of Hokitika: These rivers join just inside the entrance Good, straight channel; average depth, 8 ft. to 10 ft. The port is well sheltered by Open Bay Islands, which lie about three miles away, just opposite the entrance, bearing a trifle west of north. A dangerous reef lies about two miles and a half from the south-west point of the smaller island, and immediately to the north-west of a line drawn from the last-named point to the extreme end of Jackson's Head.

Jackson's Bay, 153 miles south-west of Hokitika: Good shelter and anchorage, open only to north-east, with 12 ft. of water within a few chains of shore. Jackson's Head runs out about one mile and a half in a north-easterly direction from the southern end of the bay. This is the only ocean harbour on the coast of Westland, and could be converted into a first-class port at comparatively small cost. No doubt Jackson's Bay will eventually form a great coal port, as indications of coal are found from the bay to Tauperikaka, a distance of thirty miles. Moreover, the recent discovery of a practicable pass through the main range, *viâ* the Waiatoto and Axius Rivers, will make it in the near future the natural outlet for the Lake Wanaka country.

Big, or Awarua Bay, 200 miles south-west of Hokitika: At the extreme south-west corner of Westland. An open roadstead, sheltered from east and south-west winds; 24 ft. of water on south side anchorage and 30 ft. on north side, just opposite Crayfish Rock, in a spot sheltered from northerly winds.

Steamers have also, in past years, entered the Teremakau, Waitaha, Wataroa, Wanganui, Waiatoto, and Arawata Rivers, all of which have bar-entrances. The Cascade River is likewise navigable, though no steamer has as yet been in; and goods and passengers are also landed at the roadsteads of Saltwater, Gillespie's Beach, and Abbey Rocks.

Towns.

Brunnerton: A borough of about 1,200 inhabitants; is a coal-mining centre. Coke and fire-clay bricks are also manufactured. Railway communication with Greymouth Port, Reefton, and Upper Teremakau.

Greymouth Borough: Population, 3,345; the shipping port for Grey Valley. Railway communication with Reefton, Upper Teremakau, and Hokitika. Railway workshops, foundry, and quarries. The principal business portion of the town is built on Native land, rents being paid to the Public Trustee, who distributes them to Natives entitled thereto.

Kumara: Borough, of 1,150 inhabitants. This is a brisk mining town, and is probably the largest hydraulic-sluicing mining centre in New Zealand. It has two suburbs—Dillmanstown and Larrikin's—with populations of 467 and 162 respectively.

Hokitika: Borough, of 2,494 inhabitants. This is a pretty town, the political capital of Westland, the port for shipping and centre of supply for a number of little townships, and for the whole district south of Teremakau.

Ross: Borough, population 750. A clean and neat little town, the centre of a considerable mining district, with a few good sluicing claims on a large scale.

In addition to the above, there are several small mining centres, such as Stafford, Kanieri, Woodstock, Rimu, Blue Spur, Okarito, and Gillespie's.

Mining and Minerals.

The District of Westland contains the greatest area of alluvial auriferous ground on the West Coast.

All the Westland rivers carry more or less gold, but the two great golden rivers are the Arahura and Waiho, the bars and ripples in which appear to be replenished north and south of those limits the plain is interspersed with undulating and hilly country.

This great plain stretches westwards, rising and merging into downs and hills, which again extend westward and merge into the Southern Alps and the offshoots therefrom. Banks Peninsula, which has an area of about 250,000 acres, is wholly composed of ridges and hills, deeply intersected by basins and gullies, the result of volcanic action.

The Southern Alps, which form the backbone of the island, are a continuous chain of mountains, with a succession of magnificent peaks, attaining their culminating point in Mount Cook, or Aorangi, 12,349 ft. above sea-level; there are, besides, numerous peaks ranging in altitude between 7,000 ft. and 10,000 ft. Offshoots, extending to great distances eastward and south-eastward from the main range, attain elevations of 6,000 ft. to 9,000 ft. On these mountain-ranges are numerous and extensive glaciers, from which emanates the river-system of the district, comprising the Waiau-ua, about 100 miles in length; Hurunui, 85 miles; Waimakariri, 90 miles; Rakaia, 85 miles; Ashburton, 64 miles; Rangitata, 74 miles: the Waitaki and its main feeders, 140 miles. These rivers rush down from the mountain-gorges, through the intervening ranges and hills, and traverse the plains to the sea. The channels on the plains are shallow, and extend in some instances over a mile in width.

These rivers serve as outlets for a portion of the Lake system of the Middle Island, Lake Sumner being connected with the Hurunui, Lakes Coleridge and Heron with the Rakaia, and the Mackenzie Country lakes—Tekapo, Pukaki, and Ohau—with the Waitaki. Another important lake is that known as Lake Ellesmere, west of Banks Peninsula; it is separated from the ocean by a narrow shingle-spit only 5 chains across at one point, through which, at certain seasons, the flood waters force a channel to the sea.

Climate.

The climate of Canterbury is well suited to Europeans. It resembles that of Great Britain, but on the plains is far more equable, the mean daily range of temperature being 17·10° Fahr. Observations taken at Lincoln (fourteen miles from Christchurch) for a period of ten years, ending December, 1892, give the following results: Barometer, reduced to 32° Fahr. and sea-level, 30·06 in.; mean maximum daily temperature, 61·47°; mean minimum daily temperature, 43·27°; mean average temperature, 52·37°. The extremes of temperature were 92° and 22° Fahr. The rainfall for the same period averaged 26·809 in. per annum, the extremes being 35·287 in. in 1886 and 14·836 in. in 1890. The average annual number of days on which rain fell was 123, the extremes being 149 in 1887 and 98 in 1891. Snowfalls are very light on the plains, but in the high uplands the climate is much colder and more severe. The changes of weather and temperature are sudden, calms and gales, rain and sunshine, heat and cold alternating. The prevailing winds are north-east, south-west, and north-west—the last a hot wind. The climate, as a whole, is splendidly healthy, bracing, and most enjoyable.

Foundation and Settlement.

The district was occupied, in the first instance, by settlers sent out by the Canterbury Association, which was formed in 1848, and incorporated by Royal Charter in 1849, under the auspices of prominent men in England, including the Archbishop of Canterbury and Lord Lyttelton. The step was not taken until after due inquiry as to the most suitable part in which to establish a settlement. Captain (afterwards Sir George) Grey, at that time Governor, recommended the Wairarapa, but it was finally decided to take over from the New Zealand Company a tract of the Canterbury Plains, in the neighbourhood of Port Cooper. Captain Thomas, the agent of the association, who had advised the selection, superintended the surveys and the preparations for receiving intending settlers. The original intention of the founders was that the settlement should be independent and complete in itself, and should embrace only such persons as were members of the Church of England and were approved of by the association. This was frustrated by the influx of numbers of persons of all classes and beliefs. The first body of emigrants arrived at Port

Cooper on the 16th December, 1850, and the settlement remained under the control of the association, as directed by a committee of management in England, and under the active personal supervision of Mr. John Robert Godley, until 1853, when the whole of Canterbury became a province of New Zealand by the provisions of "The Constitution Act, 1852."

Thenceforward the control of the settlement was vested in the Superintendent and the Provincial Council. The first Superintendent was Mr. James Edward FitzGerald, who held office till 1857; he was followed in succession by Mr. William Sefton Moorhouse, 1857–1863; Mr. Samuel Bealey, 1863–1866; Mr. Moorhouse again till 1868; and Mr. William Rolleston till the abolition of the provinces in 1876, when the district came directly under the control of the General Government.

Internal Communication.

In no part of New Zealand are the means of communication better than in Canterbury. The natural facilities of the country have been abundantly supplemented by railways and roads. Lyttelton, the chief port, is connected by rail with Christchurch, the heart and centre of the whole district. From Christchurch the main line extends northwards to Culverden, a distance of 69 miles; southward the main trunk line runs to Waitaki, 138¾ miles. These lines tap and serve the whole coastal district, and the lands adjoining on the western side. As feeders to these trunk lines, eight branch lines have been constructed westward, and two lines south-eastward; the former, in most instances, extending to the foot of the hills.

Combined with the railway system is a complete network of main, district, and subsidiary roads, extending into all parts of Canterbury. The total length of railways is 455 miles, and the roads probably exceed 10,000 miles in the aggregate. The completion of this splendid system is due, partly to the foresight of the original settlers, partly to the exertions of the Provincial Government, and partly to the railway and public-works policy of the late Sir Julius Vogel.

Geological Formation.

According to Sir James Hector, the main western ranges are composed of Upper Palæozoic rocks, having at their base extensive plains of Tertiary fluviatile formation, with occasional protruding ridges of Upper Mesozoic, forming low mountain-ranges subordinate to the main axis. Banks Peninsula consists of basic volcanic rocks.

Area, Nature, and Disposition of Lands.

The area of the Canterbury Land District is 9,604,045 acres, of which the estimated area of forest-land is 516,030 acres. Forest-lands are found in Banks Peninsula and in the Mount Peel and Waimate districts, where the timber consists chiefly of rimu, totara, and matai; at the sources of the Waiau-ua, Ashley, Waimakariri, Rakaia, and Hopkins Rivers, at Lakes Ohau and Sumner, and near Springfield and Methven, the timber in these localities being mostly native beech; and near Oxford, where the beech is interspersed with rimu, totara, matai, &c.

The lands of Canterbury may be classed approximately as follows: First class, 2,046,071 acres; second class, 5,207,173 acres; third class (barren lands and lands of small value), 2,350,801 acres: total, 9,604,045 acres.

The disposition of lands was in 1899 as follows:—	No. of Holders.	Area in Acres.
1. Crown lands disposed of for cash (including land granted under Midland Railway Act, 398,475 acres, but deducting lands repurchased for settlement—101,417 acres) ...	...	3,881,175
2. Lands held on deferred payments	40	13,182
3. Lands held on perpetual lease	137	16,129
4. Lands held as leaseholds in perpetuity	884	175,835
5. Lands held in occupation with right of purchase ...	18	1,412
6. Lands held as village-homestead special settlements ...	358	11,876
7. Lands held as small grazing-runs	66	138,698
8. Lands held as grazing-farms (on Cheviot Estate) ...	41	45,691
9. Pastoral licenses	112	3,422,153

	No. of Holders.	Area in Acres.
10. Special-settlement associations	37	4,433
11. Reserves and Crown lands held under temporary occupation licenses (area, 91,230 acres, included in 12 and 16)	457	...
12. Area of land reserved and granted under various Acts (exclusive of Midland Railway land, included in 1) ...	...	769,716
13. Land purchased and disposed of under Land for Settlements Acts (included in 4, 7, 10, and 11; 600 holders, 94,160 acres)	...	...
14. Crown lands open for selection	...	12,025
15. Crown lands being prepared for selection	...	...
16. Barren lands, and lands for future disposal	...	1,111,720
Total	2,150	9,604,045

In explanation, it may be noted that No. 1 comprises the freehold lands conveyed, and that tenants of Nos. 2, 3, and 5 have the right of acquiring the freehold, which is not the case with tenants of Nos. 4, 6, 7, 8, 9, 10, 12, and 13. Crown lands proper are: 14, open for selection; 15, being prepared for selection.

Soils.

The Southern Alps and mountains adjoining are, owing to their great altitude, subject to disintegration, and form for the most part rocky barren wastes.

The lower ranges and hills, the high tablelands, and the light stony portions of the plain form the pastoral areas.

In the northern and southern districts and in the great central plain are the agricultural areas. This latter class of land comprises rich alluvial tracts about Cheviot, Rangiora, Kaiapoi, Lincoln, Ellesmere, Longbeach, Temuka, and Waimate, and the splendid plain- and down-lands which extend from Cheviot to the Waitaki.

Banks Peninsula, where the soil is of a rich volcanic nature, though exceedingly hilly, has alluvial areas in the valleys and about the bays.

Pasturage and Crops.

Below a certain level, the mountainous and hilly regions, and the high upland country in the western and northern part, are covered by native grasses, with an admixture of English forage-plants where the character of the soil and other circumstances are favourable.

The pasturage, which is very suitable for sheep-farming, is taken full advantage of by the pastoral tenants of the Crown, and is used to some extent by freeholders. The light stony portions of the plain also contain native grass lands, well adapted to merino sheep.

The lower hills, downs, and better kinds of plain-country have been widely cultivated, and have proved well fitted for the production both of cereals and of grasses.

The chief crops grown in Canterbury Provincial District are wheat, oats, barley, turnips, rape, clover- and grass- seed; while amongst other crops produced are maize, rye, peas, and beans.

Of the cereals, wheat is the most largely grown, and was for many years a large item of export. In the season 1898–99 the area under crop for threshing was 249,852 acres, yielding an average of 33·65 bushels per acre, or 8,409,166 bushels in all, equal to nearly two-thirds of the whole yield for the colony.

Oats also are very successfully grown, the figures for the same period being 142,748 acres, which yielded 5,890,132 bushels; or an average of 41·26 bushels per acre, or over one-third of the total yield for the colony.

Barley of superior quality is also produced, the figures being 14,600 acres, 675,931 bushels: average per acre, 46·29 bushels, or more than one-third of total yield.

Grass-seeds are abundantly grown, cocksfoot mainly on the splendid Banks Peninsula country, and ryegrass throughout the land district.

Potatoes, which yield crops of excellent quality, were grown in 1898-99 on 12,432 acres; turnips and rape were grown on 207,407 acres, and the combined area of other crops grown, including rye, peas, beans, mangolds, beet, carrots, and onions, was 12,806 acres. The area of wheat, oats, and barley for fodder was 61,342 acres. The area ploughed and laid down in English grasses was 1,312,494 acres. Surface-sown lands comprised 342,317 acres. The total area under crop was 699,681 acres, and the area broken up but not in crop, 8,602 acres. Plantations, exclusive of private gardens, occupied an area of 21,736 acres.

Stock.

The pastoral and agricultural lands provide grazing and fodder for a large number of sheep, cattle, horses, and other stock. Of late years the value of the plains has been much enhanced and the carrying-capacity thereof greatly increased by the water-race system, which supplies water throughout the length and breadth of the dry areas, and enables the country to be occupied in smaller holdings than would otherwise be possible.

The following table shows the extent, cost, and other particulars regarding the water-race system in the several counties in 1899:—

County.	Area watered.	Miles of Races.	Total Cost.	Cost per Acre watered.	Amount of Water distributed every Twenty-four Hours.	Annual Charge for Use of Water.
	Acres.		£	s. d.	Gal.	
Selwyn ...	326,388	1,084	67,679	4 1¾	70,940,960	8s. 4d. to £1 5s. per 100 acres.
Ashburton	586,000	1,220	27,500	0 11½	78,000,000	About £3 per mile of race.
Geraldine	71,212	260	9,010	2 6¼	29,520,000	About 7d. per acre, including a rate for payment of principal and interest on loans, and a rate for maintenance.
Waimate	35,700	157	8,125	4 7	8,500,000	Races are maintained by an annual charge on the value of lands watered.

The sheep in the Provincial District of Canterbury, in April, 1898, numbered 4,072,687. In November, 1898, there were 45,487 horses, 87,471 cattle, and 29,915 pigs.

The district has a well-deserved reputation for the classes and splendid quality of its sheep. On the mountains and higher lands the merino still predominates; but on the richer low-lying ranges, hills, and plains the prevailing types are crosses between the merino and Leicester, Lincoln, Romney Marsh, and other breeds. In proof of the superior character of the flocks, pasturage, and climatic conditions in the Middle Island, the following percentages of lambing returns are quoted—these are "fair average returns, but much higher might have been exhibited": Mountain native pasture—pure merino, 75·36; pure merino and Border Leicester, 88·94: English-grass pasture—crossbred and Border Leicester, 80·8; half-bred Border Leicester, 82·79; Border Leicester, 90·77; Lincoln, 88·08; Romney Marsh, 111·46; English Leicester, 93·34; Shropshire, 97·41; Southdowns, 96·87. It must be borne in mind that the flocks and herds are supported by the natural and artificial pastures without housing.

Owing to the development of the frozen-meat trade a great impetus has been given to sheep-breeding. The bulk of the primest meat exported from the colony is supplied by this district, with Marlborough, and commands the highest price in the London markets. In the year ended 30th April, 1899, the number of carcases frozen was 1,339,933, valued at £858,083. There were also produced preserved meats to the value of £19,298; 7,353 casks of tallow, valued at £56,874; 4,100 tons of bonedust and manures; besides neatsfoot-oil, oleo, &c.

The total quantity of frozen meat exported from Canterbury during the year ended 31st March, 1899, was 544,468 cwt., valued at £652,654. At Belfast, Fairfield (near Ashburton), Islington, and Timaru, freezing-works are established, each containing a complete plant for carrying on the industry, as well as departments for curing, preserving, boiling-down, tallow rendering, fellmongering, and the manufacture of manures. The Belfast Freezing Works, owned by the Canterbury Frozen Meat and Dairy Produce Export Company, contain engines of 710-horse-power, and employ 300 men. They have storage for 90,000 carcases, and can put through 5,000 carcases in a day. The same company has recently established a new factory at Fairfield (near Ashburton), where 40,000 carcases can be stored and 2,200 dealt with in a day. The Islington and Timaru works, which are owned by the Christchurch Meat Company, employ in all about 590 men, and have engines representing 430-horse-power. The former can put through 4,000 to 6,000 carcases per diem, and have storage for 75,000 carcases. The latter can deal with 3,000 to 4,000 carcases in a day, and have storage for 75,000 carcases. At Hornby there has been established by Messrs. Nelson Brothers (Limited) a well-equipped factory for freezing only, with engines of 300-horse-power, and a capacity of dealing with 1,000 sheep per diem. The factory has storage-room for 50,000 sheep.

Wool.

During the year ended 31st March, 1899, there were shipped at Lyttelton and Timaru 31,082,211 lb. wool, valued at £1,053,273; and to this must be added the amount (about 1,000,000 lb.), bought for manufacture by the woollen-mills in the district. The staple of the New Zealand wool, especially the long-wool and crossbred, is remarkable for its freedom from breaks and other imperfections. The average clips are approximately as follows: Merino, 4 lb. to 7 lb.; quarter-breds, 6½ lb.; half-breds, 7½ lb.; three-quarters, 8½ lb.; Leicesters, 10½ lb.; Lincoln, 11 lb. From special flocks clips up to 25 lb. and 30 lb. are obtained.

Butter and Cheese.

Banks Peninsula and the rich tracts of country previously mentioned are excellently suited for dairy farming. The pasturage and climatic conditions are favourable, and a great increase in the production of butter and cheese may be looked for, more especially as housing and hand-feeding are in some districts unnecessary. A central co-operative dairy factory has been established at Addington, served by twelve creameries, situate at Marshlands, Oxford, Halswell, Springston, Doyleston, Little River, Ladbrooks, Lakeside, Kaiapoi, Green Park, Brookside, and Ashburton, each capable of dealing with the milk of 10,00 cows. There are also very complete dairy factories at Taitapu, Sefton, Temuka, Southbrook, Belfast, Tinwald, and Le Bon's Bay, as well as a cheese-factory at Flemington.

In 1895 the production of butter at the Canterbury factories alone amounted to 1,213,942 lb., and of cheese to 582,400 lb.

Timber.

The sawmilling industry finds its development chiefly in the Oxford, Little River, Mount Somers, and Waimate districts. The number of mills in Canterbury in 1896 was twenty-two, employing 232 hands, the horse-power being 318. The output in 1895 was 3,697,230 ft., valued at £17,608. The timber comprises birch, totara, red- and white-pine. The first-named is used chiefly for sleepers and fencing, the totara and pine for building purposes. Including the work done by the planing- and moulding-mills the value of all the manufactures under this head was £26,154.

Fruit.

The district is eminently adapted for the growth of a large variety of fruits, especially all that flourish in Great Britain. Attention has recently been directed to landing supplies of fruit in London; the attempts so far have proved satisfactory, and point to the possibility of a large trade being established.

Coal.

Brown coal is found at the Malvern Hills, Homebush, Whitecliffs, Springfield, Mount Somers, Albury, and various other places. Lignite is also commonly distributed. For the year 1898, the output from 15 colleries, employing about 50 hands, was 13,347 tons, bringing the total amount raised from 24 collieries up to the 31st December, 1898, to 365,689 tons. The seams worked vary from 16 ft. to 2 ft. 3 in., the average width being 8 ft. At Acheron, near Lake Coleridge, a true anthracite is found, the other pits in the district being of brown coal or lignite.

Building-stones.

The building-stones of Canterbury comprise some excellent varieties. The Halswell quarries produce an exceedingly hard and close-grained stone of a dull leaden-grey colour. Granular trachytes are obtained from Governor's Bay, Lyttelton; porphyrites at Malvern Hills; good limestone at Malvern Hills, Waikari, Mount Somers, and various other places; bluestone rock is found at Timaru suitable for millstones. There is abundance of limestone in North Canterbury, Mount Somers, Castle Hill, and various other parts, which is well adapted for making lime.

Fisheries.

Deep-sea fishing is carried on from Lyttelton and Akaroa, the kinds of fish chiefly caught being groper (hapuku), ling, conger, moki, butterfish, barracouta, soles, whiting, red-cod, herrings, and garfish. From Lake Ellesmere and the river estuaries excellent flounders are obtained. In 1896 there were employed on the lake and along the coast 68 boats, manned by 105 men.

Trout thrive amazingly in the rivers and fresh-water lakes, affording excellent sport.

Manufactories.

Excluding mines and quarries, the total number of manufactories in Canterbury in 1896 was 448, employing 4,944 males and 1,110 females.

The total value of manufactures for 1895 was £2,629,822, and the value of land, machinery, and buildings was £1,178,112. Included in the above were 20 printing, 9 agricultural-implement, 27 coach-building and -painting, 29 fellmongering, tanning, currying, and wool-scouring establishments, 5 ship- and boat-building works, 12 sail- and oilskin-factories, 3 woollen-mills, 5 clothing, 17 boot-and-shoe factories, 4 rope-and-twine works, 5 flax-mills, 5 boiling-down, meat-preserving, and freezing works, 14 cheese- and butter-factories, 32 grain-mills, 3 fruit- and jam-making works, 16 breweries, 10 malt-houses, 30 aerated waters and cordial works, 6 sauce- and pickle-making factories, 5 soap- and candle-works, 22 sawmills and sash-and-door factories, 4 gasworks, 15 brick, tile, and pottery manufactories, and 10 iron- and brass-foundries.

At the date of the last census, in 1895, the value of land, machinery, and buildings was £1,178,112, and the total value of manufactures was £2,629,822.

Libraries and Churches.

As an indication of the progress of the district, it may be noted that there were in April, 1896, seventy-three public libraries, mechanics' institutes, and scientific institutions, with a membership of 3,647; and 277 churches or chapels, attended by 42,615 persons.

Educational Institutions.

Primary Schools.—The district is divided into two parts, termed North and South Canterbury, each presided over by an Educational Board. Under the control of the Boards schools have been established throughout the whole country wherever population warrants their erection.

The number of children attending the public primary schools in Canterbury, on 31st March, 1899, was 25,923. Average daily attendance, 21,077. Number of teachers—males, 285; females, 416: total, 701. Number of schools, 270.

There is a Normal School at Christchurch for the training of teachers.

Secondary Education.—For the further education of children ample provision has been made by the establishment of secondary schools. The principal schools of this class are the Boys' and Girls' High Schools at Christchurch, Rangiora, Ashburton, Timaru, Waimate, Akaroa, and Temuka. For more advanced students Canterbury College, Christchurch, is available. This institution was founded and endowed by the Provincial Government in 1873. It is presided over by a Board of Governors. The teaching staff comprises eight professors and three lecturers, and the number of students attending lectures is over 300.

It should be recorded here that the Provincial Government of Canterbury was fully alive to its duties as regards higher education. It made reserves for the purpose of endowment for the following objects: (1) College, 101,640 acres, reserved June, 1873; (2) technical science, 103,000 acres, reserved July, 1873; (3) School of Agriculture, 100,950 acres, reserved June, 1873; (4) Boys' High School, 9,220 acres, reserved at various dates; (5) Classical School, 8,953 acres, reserved at various dates. To these were subsequently added the following: (6) Girls' High School, 2,578 acres, reserved January, 1878; (7) Medical School, 5,000 acres, reserved December, 1877.

Primary Schools.—There are numerous private schools, independent of the State, the chief amongst them being Christ's College, Christchurch, connected with the Church of England. The Roman Catholics support schools of their own in Christchurch, Pleasant Point, Lyttelton, Timaru, Addington, Papanui, Ashburton, Akaroa, Rangiora, Temuka, Leeston, and Waimate. There are besides, in Christchurch, some excellent private boarding- and day-schools for both boys and girls.

Other Institutions.

Canterbury has the advantage of possessing many flourishing public institutions. The School of Art, Christchurch, was established by the College Governors in 1882; the Art Gallery owes its origin to the Art Society, the site being the gift of the Government. The Canterbury Agricultural College, Lincoln, also founded by the College Governors, is surrounded by 660 acres of land. The commodious buildings, which cost over £20,000, provide accommodation for the Director and teaching-staff, and for forty-five students. The fees are on a low scale. The farm buildings are complete, and include a well-equipped dairy. Instruction is given in agriculture, chemistry, botany, mechanics, physics, surveying, &c.

The Public Library, Christchurch, under the control of the College Governors, contains reading-rooms, a circulating library of 18,160 books, and a reference library of 11,869 volumes. Numbers of magazines and newspapers are provided. The number of subscribers is 1,800, and the average daily attendance between 7C0 and 800.

The Museum, Christchurch, is a handsome pile of stone buildings; the collections are large and varied. They are separated into two groups: (1) Those from New Zealand; (2) those from foreign countries. In the New Zealand department the skeletons of whales and moas, as well as the collections of shells (tertiary and fossils) and rocks, are specially good; and the Maori collection, exhibited in a Maori house, is also of considerable interest. In the foreign department, the geological, mineralogical, and ethnological collections are the most extensive, but there is also a good illustrative series of Egyptian and Roman antiquities, as well as of the remains of prehistoric man in Europe and America.

This institution owes its origin and success to the foresight, skill, and energy of the late Sir Julius von Haast, and to the munificence of the Provincial Government.

The philanthropic institutions embrace the Christchurch, Akaroa, Ashburton, Timaru, and Waimate Hospitals; the Sunnyside Asylum for the Insane; the Rhodes Convalescent Home; the Memorial Home for the Aged at Woolston; the City Mission and Destitute Men's Home, Christchurch; the Deaf-and-Dumb Asylum at Sumner; the Orphanage, Lyttelton; the Industrial School at Burnham; and the Mount Magdala Asylum, Samaritan Home, and St. Mary's Home, in the vicinity of Christchurch.

Towns.

Christchurch, the capital city of the Canterbury District, is situated on the plains. It is practically level, laid out in rectangular form, two miles by one mile and a quarter, and is intersected diagonally by a street. The streets are 66 ft. in width. There are numerous open spaces, including the Cathedral Square in the centre, and Cranmer and Latimer Squares. The Avon, a pretty stream, overhung by willows, runs through the town, presenting from all points charming vistas. The city is surprisingly English in its appearance, architecture, and surroundings. The central portion, where stands the Cathedral, Government offices, and other substantial structures, has a handsome, well-built look. Other parts contain fine public buildings, such as the Museum, Canterbury College, High Schools, &c. The whole is admirably set off by Hagley Park, 400 acres in extent, the Domain and Botanical Gardens, 79 acres, Lancaster Park, the Town Belts, and other public and private gardens and plantations. The suburbs can show many handsome houses and beautifully kept grounds.

The city is surrounded by the populous boroughs and districts of Sydenham, St. Albans, Linwood, Papanui, Woolston, &c. The population of the city was at the last estimate (March, 1899) 18,085, in about 4,000 houses; including the adjacent boroughs and other suburbs the population amounts to about 54,500. Tramways connect the city with the suburbs of Addington, Sydenham, the Port Hills, and Papanui, and with the seaside villages of New Brighton and Sumner. The city has been drained at considerable expense, the sewage being conveyed three miles and discharged on the sand wastes near the sea. A pure and copious water-supply has been provided by nature, and is obtained by artesian wells. The affairs of the municipality are controlled by the City Council, presided over by the Mayor. Christchurch is the centre of trade and commerce for the North Canterbury agricultural and pastoral country, and the headquarters of many manufacturing industries, including carriage, boot, and clothing-factories, flour-mills, breweries, meat-preserving and -freezing, biscuit, planing and moulding, bicycle, and other works.

There are large and well-equipped show-grounds at Addington.

Recreation and amusement are provided for by the Theatre Royal, Opera House, and various public halls, the famous Riccarton racecourse, the numerous cricket and football grounds, &c., while boating men have the River Avon and the Heathcote estuary.

Christchurch is connected with the outside world by Port Lyttelton, seven miles distant. The railway-tunnel of 1⅝ miles in length, through the Port Hills, is on this line. Christchurch is not only the centre of the splendid Canterbury Plains, but is also one of the chief railway centres of the colony. Addington railway-workshops are extensive and fully equipped.

Lyttelton, the chief port of the district, is situated on the northern shores of the inlet of that name, sometimes called Port Cooper. The surrounding country consists of high precipitous hills, which separate the harbour from Christchurch and the plains; but by the construction of the railway and tunnel the natural difficulties have been overcome, with the result that the whole of the imports and exports of northern and central Canterbury pass through Lyttelton. The origination and accomplishment of this great engineering work is due to the late William Sefton Moorhouse, at that time Superintendent of the Province. The natural advantages of the port have been enhanced by reclamation and harbour-works, which include two breakwaters, 2,010 ft. and 1,400 ft. in length respectively, extending from Officer and Naval Points, enclosing about 107 acres; long lengths of wharf accommodation, 10,041 ft.; a patent slip for ships up to 400 tons; and a splendid graving-dock 450 ft. long, width on top and bottom 82 ft. and 46 ft. respectively, the entrance being 62ft. wide, well equipped with machinery and all requisites for repairs. Ships drawing up to 25 ft. can berth alongside the spacious wharves and sheds. The railway, electric-light, machinery, and appliances are available throughout, which renders loading and unloading practicable both by day and by night. As an indication of the volume of trade dealt with at the port, it may be noted that for the year ended March 31, 1899, the imports were valued at £1,335,387 and the exports at

The Museum, Christchurch.

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£1,873,427. The town nestles on the side of the range, the streets being generally steep, flanked by solid stone buildings; and a background of green spurs and bold rocky faces gives to the whole a charming and picturesque appearance. The water-supply is obtained from artesian wells on the Christchurch side of the hills. To Christchurch there is a bridle-track over the range, and a carriage-road *viâ* Sumner. The harbour is well defended by fortifications and batteries on Ripa Island and the mainland. The population in 1898 was 4,053, with 780 houses.

Timaru, the third town in importance, is situated on the coast and railway-line between Christchurch (100 miles) and Dunedin (131 miles). The boundaries of this borough were extended in 1898, the estimated area, including town belt, being now 1,100 acres. It has a well-constructed artificial harbour, the port of shipment for the agricultural and pastoral districts of Geraldine, Timaru, and Waimate. The harbour is enclosed by a breakwater built of blocks of concrete; a rubble wall—the North Mole—starts from the shore a quarter of a mile away to the north, and extends easterly to a point 350 ft. from the breakwater. The enclosed space is 50 acres. During the year ended March 31, 1899, the value of goods imported here was £111,436 and of produce exported £520,291. The town is picturesquely situated on rolling hills overlooking the sea. The streets are irregular, but the public and commercial buildings, churches, and private houses are generally well and handsomely built of stone. The chief industries are meat-freezing, saw-milling, flour-milling, &c. The town has a good high-pressure water-supply, and is connected by well-made roads with the surrounding districts, and by rail with Fairlie, the route to the Mackenzie Country and Mount Cook. The population in 1898 was 5,702, with 1,139 inhabited houses.

Of other towns in Canterbury the following deserve mention: Rangiora, population, 1,871, with 390 houses, twenty miles from Christchurch by northern line of railway, is situated in the centre of a fine farming country, and possesses manufactories, including seven flax-mills, flour-mill, and brewery. The town and neighbourhood are much benefited by plantations.

Kaiapoi, on the Waimakariri, population 1,880, about fourteen miles from Christchurch by the northern railway-line, lies in a rich farming country, rendered pleasing and attractive by the extent and variety of plantations and gardens. There are factories and various industries, including ham- and bacon-curing, saw-mills, brewery, and agricultural-implement works. Here also is the famed Kaiapoi Woollen-mill, which employs 600 hands when trade is brisk. The Waimakariri is navigable for small vessels to the centre of the town.

Ashburton, the newest of the towns, has a population of 2,100, with 485 houses, and is fifty-three miles from Christchurch on the southern trunk line. It is a well-built town, with extensive and beautiful recreation-grounds and gardens. It owes its existence to the settlement of the plains, the surrounding country being well adapted for farming. There are two breweries, a cordial-factory, three flour-mills, gasworks, ironworks, woollen-mill, brickworks, &c.

Geraldine, population 850, is situated on the Waihi River, four miles from Orari Railway-station, about eighty-six miles south-west from Christchurch. It is a neat and pretty town, in a first-class farming district, and has a beautiful park of native forest-trees.

Temuka, eighty-eight miles from Christchurch, on the southern railway-line, is a well-built town, with good agricultural land all round. It possesses three flour-mills, a butter- and cheese-factory, brewery, foundry, fellmongery and paper-mill. There is a beautiful park and domain. The population, with that of Arowhenua, is 1,450 persons.

Waimate, population 1,500, is situated on the Waihao Forks Railway, about four miles from Studholme Junction, some 111 miles from both Christchurch and Dunedin. This town is the centre for an extensive back-country, and a splendid agricultural area. It owes its origin to the sawmill industry of the Waimate bush. Industries: saw-milling, flour-milling, &c.

Akaroa, population 630, situated on the noble harbour of that name, was founded in 1840, in the first instance by the French. It is a quiet, picturesque little place, much patronised by Christchurch residents and others as a summer resort and watering-place. It was here that Captain Stanley hoisted the British flag on 11th August, 1840, when he took possession of the Middle Island on behalf of the Crown, forestalling the French by a few hours only.

THE OTAGO LAND DISTRICT.

J. P. Maitland, Commissioner of Crown Lands.

John Hay, Chief Surveyor.

Boundaries and Area.

The Otago Land District lies between the 44th and 47th parallels of south latitude, and extends from 167° 20′ to 171° 10′ of east longitude. It is bounded on the north by the Canterbury Land District; on the south-east and south by the ocean; on the west and south by the Waikawa, Mokoreta, Slopedown, Waikaka, Chatton, Wendon, Waikaia, Gap, Rockyside, and Kingston Survey Districts, the western and southern shores of Lake Wakatipu, the Mid-Wakatipu, Mavora, Swinton, Eglinton, Arran, and Doon Survey Districts, and a straight line from the north-east corner of the last-mentioned district to the nearest arm of George Sound, and by George Sound to the ocean; and on the north-west by the ocean to Big Bay.

The district measures about 160 miles from Milford Sound on the west coast to Waikouaiti Bay on the east coast, and the same distance from north to south. Its area is 9,004,800 acres.

Physical Description.

The country generally is mountainous, the highest land being to the north-west, and culminating in Mount Aspiring, 9,960 ft. above the level of the sea.

The west coast mountains are remarkably rugged and grand; and of the thirteen sounds that pierce this coast, three are within the limits of the Otago Land District, the remaining ten being on the west coast of the Southland District. These three are Milford Sound, Bligh Sound, and George Sound. Milford Sound, though only eight miles in length, contains some of the grandest scenery in the world; and fourteen miles inland from its head is the great Sutherland Waterfall, 1,904 ft. high, possibly the highest waterfall known. Bligh Sound is smaller than Milford, and not nearly so interesting; but George Sound is larger, and very picturesque.

A tourist track has been opened from the head of Te Anau Lake to Milford Sound, and a practicable route has also been discovered, and a track formed, from the north-west arm of the middle fiord of Te Anau Lake to the head of George Sound.

Te Anau Track.—A guide works on this track from December to April. He carries a fortnightly mail between Lake Te Anau and Milford Sound, and also meets each trip of the "Waikare." There is ample accommodation for tourists who wish to make the journey in short stages, as there are huts erected at six different places on the track.

For nearly one hundred miles inland from the west coast the country is very mountainous, but at a distance of sixty or seventy miles from the south-east coast-line it begins to get gradually lower, taking the form of rolling hills and downs along the sea-shore.

Rivers and Lakes.

The largest rivers are the Clutha, Taieri, and Waitaki: the first-named drains Lakes Wakatipu, Wanaka, and Hawea; the last, Lakes Ohau, Pukaki, and Tekapo, in the Canterbury District. Te Anau, the largest lake in the Middle Island, lies partly in the Otago and partly in the Southland District. The dimensions of these lakes are as follows:—

Lakes.	Length in Miles.	General Breadth in Miles.	Area in Square Miles.	Height above Sea-level in Feet.
Te Anau ...	38	1 to 6	132	694
Wakatipu ...	50	1 to 3½	114	1,069
Wanaka ...	29	1 to 3	75	928
Hawea ...	19	3	48	1,062
Ohau ...	11	1 to 3	23	1,720
Pukaki ...	11	2½ to 5	31	1,588
Tekapo ...	15	1 to 3½	32½	2,325

These lakes are situated in mountainous country ; they are of glacial origin. and all very deep.

The Clutha River is the largest in New Zealand, and is estimated to discharge over 1,000,000 cubic feet per minute. It has a rapid current, but is navigable for small steamers for a distance of forty miles from its mouth. The Waitaki is not a navigable river. For some seventeen miles from its mouth the Taieri River is affected by tides, which run up one branch into Waihola Lake, and up the other branch as far as Allanton (Greytown).

There is a small steamer on Waihola Lake, and another on the Taieri River at Henley. During the summer season both run excursion trips to the mouth of the river when required. The distance in each case is about eight miles.

Plains.

There are some considerable areas of tolerably level land in the interior, the largest being the Maniototo Plains, the Idaburn, Manuherikia, and Upper Clutha Valleys. Their dimensions are approximately as follows: Maniototo Plains, length, twenty-eight miles ; average breadth, ten miles ; Idaburn Valley, twenty-five miles by four miles ; Manuherikia Valley, thirty-five miles by four miles ; Upper Clutha Valley, thirty-three miles by five miles.

The Taieri Plain, nearer the coast, is about the same size as the Idaburn Valley, and is very fertile. Other plains are the Waitaki in the north, the Tokomairiro, the Strath-Taieri, the Tapanui, and the fertile Inch-Clutha, lying between the two branches of the Clutha River, and consisting entirely of alluvial deposit. There is also a good deal of low country, chiefly rolling downs, on the south-west side of the Clutha near the sea.

Forests.

The forest-land lies mostly along the sea-coast, the largest area of bush being Tautuku Forest, about forty miles in length and fifteen miles in breadth. The western part of this forest is in the Southland District. The other principal forest areas are in the following localities, viz.: north of Dunedin, east of the Tapanui mountains, in the upper valley of the Waikaia River, and towards the north-west coast.

The forests of Otago contain a large variety of useful timber, both hard and soft wood ; some being suitable for building purposes, while other varieties are highly ornamental, and much prized for cabinet-work.

Building Stones.

Building-stones of good quality are found in various places throughout Otago. The Port Chalmers quarries afford an inexhaustible supply of bluestone, a basaltic stone of great hardness and durability ; and the neighbourhood of Hindon furnishes a bluestone of superior quality. A hard freestone of excellent quality is found at Waikawa, where there is a large hill of it close to the water's edge. Blocks of very great size can be obtained. There is also a freestone of superior quality on the late Hon. W. J. M. Larnach's property on thePeninsula. A dense dark granite is obtainable on Ruapuke Island; specimens, both tooled and polished, may be seen in the base and pilasters of the new Government Life Insurance Buildings at Dunedin. A soft white building-stone—the well-known Oamaru limestone—is found in large quantities along the railway-line near Oamaru, from whence a good deal is exported to other parts of New Zealand and to the neighbouring colonies. A similar kind of stone is found at Otekaike, about two miles from the railway-station, and it may be interesting to note that during the years 1891–93 about 3,000 tons of stone were sent from the Otekaike quarries to form the facings of the Melbourne Fish-market.

Limestone for Burning.

Limestone is found in the following places: Oamaru, Otekaike, Otepopo, Waihemo, Maniototo Plains, Waikouaiti, Lower Harbour, Peninsula, Waihola, Millburn, and Wakatipu.

The Millburn Lime and Cement Company burn large quantities of lime at their Millburn works, from whence it is sent to all parts of Otago, for building purposes, gasworks, &c. It is also largely used in farming, and the productiveness of the Tokomairiro Plain has been greatly increased of late years by its application to the soil. Large cement-works belonging to the same company have been open for some years on the reclaimed land in Otago Harbour, near Dunedin. The cement manufactured at these works is considered fully equal, if not superior, to the best imported, and is largely used in building and other constructive works.

Coal and Lignite.

No first-class coals have yet been discovered in Otago suitable for ocean-going steamships. In the southern portion of the district and in part of Southland thin seams of coal of a bituminous character exist, but so far nothing of a commercial character has been found. These coals are of Mezzozoic age. First-class brown coals are worked in several parts of Otago and Southland, the principal seats of the industry being Shag Point, Green Island, Kaitangata, and Nightcaps.

Beds of lignite are also found in numerous localities, chiefly round the margins of the old lake-basins and along the courses of the older river-valleys, and are worked on a small scale to supply local demands.

The output of coal and lignite in Otago and Southland for 1898 was 280,043 tons.

Climate.

The climate of Otago varies greatly in different neighbourhoods, and sometimes a distance of a few miles only separates districts very dissimilar in this respect. A large area in the interior of Otago has what may be called a dry climate. This area includes the Maniototo Plains, the Idaburn and Manuherikia Valleys, and extends to Lakes Wakatipu, Wanaka, Hawea, and Ohau on the west and north, and to the Waitaki River on the north-east. From Oamaru the direction would be across country to the Lammerlaw Ranges, and thence to Mount Benger and the southern end of Lake Wakatipu. This part of the country is well adapted for sheep of all kinds, especially merinos. Some of the runs in the hilly country are capable of carrying 20,000 sheep.

West Coast.

In marked contrast to central Otago is the West Coast District, which may be described as having a wet climate. Not that the number of wet days in the year is very great, but it is subject to very heavy rains from the north-west, the fall generally exceeding 100 in. per annum. But, although wet, the climate is mild, and the vegetation is consequently luxuriant. The only settlers of this part of the country are Mr. and Mrs. Sutherland, who keep a house of accommodation for tourists at the head of Milford Sound. There are very few visitors to the Sounds during winter, but in summer the tourist traffic is considerable. Towards the south-east and south coasts of the district the climate is moist, being somewhat similar to that of Dunedin, where the average rainfall is 35 in., distributed over 163 days in the year.

Fruit.

There are some fine fruit-growing districts in the valley of the Clutha, from below Roxburgh right up to Lake Wanaka. The summers are dry and warm, and the soil suitable. Apricots, peaches, &c., come to maturity fully a month before they do at Dunedin, and grapes ripen in the open air. There is a great future for this neighbourhood in the growing of those varieties of fruit which agree with and thrive in a dry climate. The grape might be cultivated either for wine-making or for the table, and some varieties could be made into good raisins. The dryness of the atmosphere is favourable for preserving all kinds of fruit, while the Otago Central Railway will bring the neighbourhood into direct communication with a market.

Crops.

Cereals of all kinds do very well over nearly the whole of the provincial district, which includes Southland. The following are the agricultural statistics:—

Total area under cultivation in the provincial district, including sown grasses and fallow land, 2,253,569 acres. Corn crops sown or intended to be sown this season for threshing, comprising wheat, oats, barley, rye, maize, peas, beans, 336,076 acres; land broken up and grassed, 1,323,342 acres, and 2,083 acres in clover, while 292,097 acres have been surface-sown with grass without the land being first broken up; green-crops, comprising potatoes, turnips, mangolds, rape, beet, carrots, &c., 270,494 acres; plantations, &c., including private gardens, market gardens, orchards, and vineyards of a quarter-acre and upwards, 10,928 acres, and 29,477 acres ploughed but not planted. The area in tussock, or native grass, is 8,034,122 acres.

	Acres.	Estimated Yield per Acre.	Total.
Wheat for threshing ...	99,752	33·37 bushels	3,329,660 bushels.
Oats „ ...	220,427	39·80 „	8,774,770 „
Barley „ ...	14,063	31·30 „	440,191 „
Rye „ ...	1,720	22·90 „	39,388 „

Stock.

The total number of sheep in Otago Provincial District, which includes Southland, on the 30th April, 1898, was 3,961,459, of which number about 700,000 were merinos. On an average, about one-third of the flocks consist of breeding-ewes. The shearing is mostly done by hand, but the Wolseley shearing-machines have been introduced on about ten stations, the number of machines in each wool-shed varying generally from ten to fifteen, though there is one shed at Benmore, near Lake Ohau, where there are twenty-eight machines driven by a turbine.

The above-mentioned district had also, in November last, 53,742 horses; 17 mules and asses; 189,249 cattle; and 24,013 pigs.

The rabbit-pest is still a severe tax on the stockowners; the number of skins exported last year for the whole colony being 6,607,934, nearly the whole of which—namely, 6,139,442—came from Otago; the monetary values being respectively £51,607 and £48,913.

Freezing Establishments.

There are nine meat-freezing and preserving-works in Otago. The principal freezing establishments are at Oamaru, at Burnside, and at Port Chalmers. At Oamaru there are two Bell-Coleman machines, and a 60-ton Hercules refrigerator, capable of freezing 1,200 sheep a day, and there is storage-room for 20,000 carcases. At Burnside there are two Haslam machines, both driven by steam. One can supply 40,000 cubic feet of cold air per hour, and the other 60,000. Also a 70-ton Hercules machine, capable of freezing 2,000 carcases per day, and having storage-room for 30,000 carcases. The Port Chalmers freezing-works, erected in 1896 by the Otago Dock Trust, cost £4,500. They are used principally for the storage of butter prior to shipment, but the freezing-chambers have also been used for sheep, rabbits, and fish. The refrigerating machinery includes a 12-ton Hercules refrigerator.

The capacity of the building is 30,000 cubic feet, and 50 tons of butter can be handled per week. The capacity has lately been nearly trebled, at an additional cost of £8,500. These additions include a 35-ton Hercules refrigerator.

Woollen-mills.

There are five woollen-mills at work in Otago, employing some 800 hands. The amount paid in wages is about £51,300 per annum, and the machinery is 800-horse-power. £64,000 worth of wool and other materials are used per annum, and the turn-out of manufactured goods exceeds £140,000 yearly. The woollen industry in Otago is of greater magnitude than in any other district of New Zealand.

Besides supplying local needs Otago Provincial District exported last year 9,757,597 lb. of wool, having a value of £310,512.

Clothing-factories.

In clothing-factories, also, Otago takes a prominent place, having nine, employing 700 hands, whose wages amount to £28,000 per annum.

Dairy Factories.

Otago still takes a fair position in the dairying industry, more particularly in cheese. There are now fifty-three dairy factories, and by next spring some more will be added. This season over 500 tons of butter were shipped at Port Chalmers for London, and at Bluff and Port Chalmers about 2,000 tons of cheese for London and Australia. A considerable quantity of butter goes also to Australia. Farmers having so many other pursuits which are profitable, such as frozen mutton, grain, &c., dairying is not increasing so rapidly as in other parts of New Zealand, where it is the mainstay of farmers; but the quality of the cheese and butter in Otago and Southland is second to none in New Zealand, and the industry must steadily increase with settlement. Several new factories are contemplated, and some have started in the newly-settled bush districts, from Owaka to Fortrose, and are found of great assistance to new settlements.

Gold Production.

Otago produces about one-third of all the gold taken out in New Zealand. The number of Europeans engaged last year was 3,849, and number of Chinese, 964.

Gold is found very generally distributed throughout Otago, except in the southern portion of the district. The principal localities are: Clutha Valley, Tuapeka, Shotover, Cardrona, Tinker's, St. Bathan's, Mount Ida, Nevis, Bannockburn, and Maerewhenua.

Last financial year the Otago Provincial District produced 78,289 oz. of gold, having a value of £315,306.

Chief Towns.

The following are the chief towns of Otago, with their population, including all having 1,000 inhabitants and upwards: Dunedin, and suburbs, 49,492; Oamaru, 5,372; Port Chalmers, 2,100; Mosgiel, 1,450; Milton, 1,300; Kaitangata, 1,400; Lawrence, 1,010.

City of Dunedin.

Dunedin, the capital city of Otago, is situated at the head of Otago Harbour, which is divided into two parts—the upper and lower. The lower harbour is six miles long from Taiaroa Heads to Port Chalmers. The upper harbour, from Port Chalmers to Dunedin, is seven miles in length. Dunedin and Port Chalmers are also connected by railway.

Although the hills surrounding Dunedin are rather tame in character and outline, the city itself is picturesquely situated. The business part of it is on level land near the harbour, and the residences occupy the sloping hills which rise on the west side of the city. The city proper is about two miles and a half long by seven-eighths of a mile wide, and is bounded on the land side by what is called the Town Belt. This reserve averages one-fifth of a mile in width, and comprises 500 acres, a great part of which is virgin bush. A pretty road, called the Queen's Drive, has been laid out through the Belt from end to end, from which many fine views of the town and harbour can be obtained.

It is thirteen miles down the harbour to the Heads in a north-easterly direction, but the Ocean Beach, lying to the south-east, is only two miles from the centre of the city, and the favourite seaside resort—St. Clair—is about three miles. Trams run to both these places at short intervals. The city is also connected with the suburban boroughs, lying on the hills overlooking the town, by excellent cable-tramways. The Botanical Gardens to the north of the city are well laid out, the native bush contrasting with the cultivated parts. The Reservoir also, which is within easy walking distance, and the drive to Blueskin Bay, have many beauties.

Dunedin is well supplied with elementary schools, there being six large schools in the city proper, with an attendance of 3,979 pupils, and eight more in the suburbs, with 3,742 pupils.

There is also in Dunedin a training-college for teachers. The students in training number nine men and forty-one women. They devote every fifth week during the session to practice in teaching and management of classes in the ten associated schools of the city and suburbs.

The School of Art and Design is in the same building as the Normal School, and has a staff of five teachers and a pupil-teacher. In 1898 there were 402 students in attendance.

The Otago Boys' High School stands on a commanding plateau 300 ft. above the business part of the city and the harbour. The school was opened on the 3rd August, 1863, in the building in Dowling Street now occupied as the Girls' High School. The new buildings were opened by the late Sir William Jervois, Governor, in February, 1885. The teaching staff, including the Rector, numbers ten; the attendance is 206.

The Otago Girls' High School was opened on the 6th February, 1871, with a roll of 78 pupils. The present attendance is 123, with a teaching staff of nine. Otago holds the proud distinction of having established the first Girls' High School in the Australasian Colonies. Among the earnest band of workers who laboured to establish this first High School for girls the name of Miss Dalrymple stands pre-eminent, and will ever be held in grateful remembrance by the people of Otago.

The Otago University was founded in 1869, and opened in 1871. It is well housed in a handsome pile of buildings in the domestic Gothic style. There are four separate faculties in the University—viz., arts and science, law, medicine, and mining. The School of Medicine provides the full course for a medical degree of the University of New Zealand. There is a Medical Museum in the University buildings containing anatomical, pathological, and other preparations and models. The teaching staff numbers at present twenty-six professors and lecturers. The School of Mines occupies a separate (temporary) building. There are at present about sixty students going through the prescribed courses for the diplomas and certificates in the Mining, Metallurgical, Geological, Mine and Land-surveying and the Assaying Divisions. Of undergraduates keeping terms there are 247—viz., 217 men and 30 women. The University Library contains over 5,000 specially selected volumes, and is open to the public under certain conditions for purposes of reference. The Chemical and Physical Laboratories are well fitted up, and furnished with all necessary instruments and appliances. There are six scholarships tenable at the University, ranging in value from £15 to £30 per annum.

The public Museum, of which the Professor of Biology is Curator, is under the control of the University Council. It is situated in Great King street, about five minutes' walk from the University. There is an art gallery attached, which contains some good works of art. Up to the present time only the central portion of the original design for the Museum building has been erected.

The Dunedin Athenæum and Mechanics' Institute possesses a fine library of over 17,000 volumes, and a membership of over 950 subscribers. Besides the Circulating Library there is a Reference Library, and two good reading-rooms, well supplied with newspapers and magazines.

There are some fine specimens of architecture in Dunedin, the buildings for the most part having an air of permanence and solidity. Some of the churches are very handsome. The First Church, in Moray Place, and Knox Church, in George street, are both handsome stone structures, and St. Joseph's Cathedral (Roman Catholic) is built of stone in the decorated Gothic style. The portion at present constructed will seat 1,000 persons, and has cost £23,000.

The Cargill Monument, which was erected to the memory of the late Captain Cargill, the founder of the Otago settlement, stands in the Triangle, between the Customhouse and the Bank of New Zealand. It is an ornate specimen of early decorated Gothic.

Towns and Surrounding Country.

Port Chalmers (eight miles from Dunedin) situate on Otago Harbour, midway between the Heads and Dunedin, has a population of 2,100 inhabitants. It is the chief port of Otago, and possesses every accommodation for Home vessels, including dry dock, 80-ton sheer-legs, steam-hammer, and other appliances, besides several private foundries, cool-storage chamber, &c. The Port Chalmers graving dock is described in the article on page 55.

Leaving Dunedin by the northern railway, winding in and out through the hills which surround the town, and skirting the precipitous cliffs of the coast-line, the first station of importance reached is Waitati, a favourite seaside resort in Blueskin Bay; distance, seventeen miles. Fifteen miles beyond is Waikouaiti; population, 760; pleasantly situated on the Hawksbury lagoon, the centre of a flourishing farming country. The next place of note is Palmerston, forty-one miles from Dunedin, with 775 inhabitants. A branch-line leaves Palmerston and runs nine miles up Shag Valley to Dunback. Six miles further on the main line there is a branch to Shag Point, a coalfield, with two pits being actively worked.

Oamaru (seventy-eight miles) is the second town in Otago, having a population of 5,400. It is the centre of a large farming district, and has a good harbour, formed by a concrete breakwater, for the reception of ocean-going ships. The chief exports are wool and grain. A branch-line runs from the junction near Oamaru up the Waiareka Valley to Ngapara, seventeen miles, and Tokaraki, twenty-six miles from Oamaru, and another seven miles by road brings us to Livingstone.

Starting from Oamaru, and proceeding to Central Otago, *viâ* the valley of the Waitaki River, the first part of the journey is accomplished by rail across the fertile Papakaio Plains to Awamoko (ninety-six miles), and thence following up the Waitaki River past Duntroon to Kurow (120 miles). At Kurow the traveller leaves the railway and follows the course of the Waitaki through pastoral country to Rugged Ridges Station (133 miles); a little beyond Rugged Ridges the road leaves the Waitaki River, and crossing the Ahuriri Pass (141 miles), strikes the Ahuriri River, which it follows up past Omarama Station (158 miles) to the junction of Longslip Creek; it then ascends this creek until Lindis Pass saddle is reached (172 miles), at a height of 3,185 feet. Here begins the descent to the Clutha Valley *viâ* Morven Hills Station (181 miles) and Tarras Station (200 miles). From Tarras Station the road runs through settled farming country up the Clutha River, which is crossed by means of a punt at Newcastle (219 miles), and four miles more brings the traveller to Pembroke, on the southern shore of Lake Wanaka.

From Dunedin the main trunk railway runs southward to Invercargill, a distance of 130 miles. Passing through the Caversham Borough and tunnel the traveller reaches Burnside (five miles) and Abbotsford (six miles), industrial centres, with coal-mining, tanning, iron-smelting, and other works. Farther on is Wingatui, the junction of the Otago Central Railway, and ten miles from Dunedin is Mosgiel, a rising township with 1,450 inhabitants, noted for its woollen-mills. The railway-line now skirts the Taieri Plain, an alluvial flat eighteen miles long by five miles broad; the most fertile portion of Otago. A branch-line from Mosgiel junction runs to Outram (nineteen miles), on the farther side of the Taieri Plain. Passing the smaller Townships of Allanton (Greytown) and Henley, and Lakes Waihola and Waipori, the line strikes Milton (thirty-six miles). Milton, in the middle of the Tokomairiro Plain, is a town of 1,300 inhabitants, with flour-mill, dairy factories, flax-mill, pottery works, and tannery. The next place of importance is Balclutha (fifty-three miles), on the banks of the Clutha River, with flax-mills, dairy factories, and chicory works; population about 925. Kaitangata, situated lower down the

Clutha River, and connected by a branch-line, has extensive coalfields, and a population of 1,400. Leaving Balclutha, the main line runs through the Clutha downs, passing the small centres of Waitepeka, Warepa, Kaihiku, and Waiwera, and reaches Clinton (seventy-three miles), on the Waiwera stream, a favourite resort of anglers. The next station of note beyond Clinton is Waipahi Junction (eighty-three miles), on the Waipahi River, likewise a favourite fishing-ground. Further on is Gore (ninety-nine miles), on the Mataura River, in the Southland District. Gore is a fast-rising township of 2,500 inhabitants, with paper-mill, flour-mill, freezing-works, dairy factory, coal-mines, &c.

A branch-line from Waipahi follows up and crosses the Pomahaka River and connects Tapanui (ninety-six miles), Kelso (ninety-eight miles), and Heriot (one hundred and two miles).

The Otago Central Railway starts from Wingatui, crosses the Taieri Plain, and then winds round to the Taieri River, which it follows up to the present terminus at Hyde. In its course along the river it runs for some distance through a rocky gorge, but after crossing the Sutton Stream enters Strath-Taieri—a comparatively flat, open country. Near Hindon Station (twenty-five miles), in the Taieri Gorge, and Barewood (thirty-six miles), there are quartz-reefs being worked. In traversing the Strath-Taieri the line passes the Blair-Taieri Village Settlement (forty-four miles), Middlemarch, a rising township (forty-eight miles), and reaches Hyde (sixty-four miles), the present limit, although the formation is well-advanced as far as Hamilton's. When this section is complete the Maniototo Plain will be tapped, and the extension of the line to Clyde presents no engineering difficulties. Central Otago has a great future before it, as in the opinion of experts it is naturally adapted for producing fruit of all kinds in perfection.

Another means of access to Central Otago is by the Clutha Valley.

Two miles beyond Milton the Lawrence branch leaves Clarkesville Junction, runs up the Tokomairiro River and the gorge of Manuka Creek, and down to Waitahuna (fifty-three miles), and Lawrence (sixty miles), gold-mining centres, with an aggregate population of 1,500. Gold was first discovered here in 1861, and the mines are still yielding freely. From Lawrence a coach runs to Beaumont (seventy-two miles), on the Clutha River. Crossing the Beaumont Bridge the road follows the west bank of the Clutha, passing numerous dredging-claims. At eighty-nine miles is Ettrick, and seven miles farther on is Roxburgh—the Teviot—(ninety-six miles), a town of 450 inhabitants. Recrossing the Clutha River by the Roxburgh Bridge, and proceeding up the east bank, the traveller reaches Alexandra South (124 miles), at the junction of the Manuherikia River with the Clutha, and Clyde—the Dunstan—(130 miles), the chief town of Vincent County. The next place of importance is Cromwell (143 miles), at the junction of the Kawarau River with the Clutha. Cromwell is a small town of 550 inhabitants, and has a good bridge over the Clutha River. If the traveller wishes to pursue his journey farther he can either follow the road up the Clutha to Newcastle and Pembroke, on Lake Wanaka, or take the Kawarau Gorge road by way of the Crown Terrace to Queenstown, on Lake Wakatipu.

Queenstown, a picturesque township situated on the shores of Lake Wakatipu, has a population of 750, and is the centre of a large gold-mining district. The chief feature of Queenstown is the grand mountain and lake scenery in the neighbourhood, which attracts large numbers of tourists every year. There are two ways of reaching Queenstown—the one by the Clutha Valley and Kawarau Gorge, as above described, and the other by rail to Kingston, at the foot of Lake Wakatipu, and thence by steamer, which runs to suit the trains.

The Tautuku bush, in the south of Otago, has only lately been opened up, but already a large number of settlers are making their homes there. Starting from Balclutha the Catlin's River branch-line runs southwards to Romahapa (sixty miles) on the crossing of the main road to Port Molyneux, thence to Glenomaru (sixty-four miles), and Owaka (seventy miles from Dunedin), is nearly complete. The Catlin's–Waikawa main road is formed the whole way through, as are also numerous district roads, and the adjacent lands are being taken up as fast as they are thrown open.

Railways.

The principal lines are as follows: (1.) The main trunk line from Dunedin to Christchurch, with branches from Oamaru to Hakataramea, forty-three miles; and Oamaru to Ngapara and Tokoraki, twenty-five miles; also, Palmerston to Dunback, nine miles. (2.) The main trunk line, Dunedin to Invercargill, with branches, Mosgiel to Outram, nine miles; Milton to Lawrence, twenty-four miles; Stirling to Kaitangata, five miles; Balclutha to Owaka, eighteen miles; and Waipahi to Heriot, twenty miles. (3.) The Otago Central, from Wingatui to Ranfurly, seventy-seven miles eighteen chains, and formation is under way to Wetherburn, eighty-five miles fifty-three chains.

Statistical.

The total estimated population of the Otago Provincial District on the 31st December, 1898, was 172,162.

Area of Otago Land District: Open land below 2,000 ft., 5,252 square miles; forest-land below 2,000 ft., 1,919 square miles; open land above 2,000 ft., 6,480 square miles; forest-land above 2,000 ft., 419 square miles; area of lakes, &c., 275 square miles: total, 14,345 square miles.

The following table shows the disposition of the land in the Otago District on 31st March, 1899:—

	Holdings.	Acres.
1. Lands finally alienated, comprising freehold land and vested reserves	...	2,692,005
2. Lands held on deferred payment, rural	87	21,617
3. Lands held on perpetual lease, rural	367	71,681
4. Lands held under occupation-with-right-of-purchase clause	103	17,134
5. Lands held on lease in perpetuity, ordinary Crown lands, rural	566	149,391
6. Lands held under agricultural lease on goldfields	20	637
7. Lands held under Mining Districts Land Occupation Act	96	3,807
8. Lands held under village settlement, deferred payment	5	188
9. Lands held under village settlement, perpetual lease	42	934
10. Lands held under village settlement, lease in perpetuity	129	1,959
11. Lands held under village-homestead special settlement, perpetual lease	84	1,341
12. Lands held by special-settlement associations, lease in perpetuity	15	2,955
13. Lands held as improved-farm settlements	73	9,879
14. Lands held as small grazing-runs	239	479,844
15. Lands held under pastoral license, not including bush	244	4,068,424
16. Lands held under lease and license for miscellaneous purposes, exclusive of gold-mining	420	163,226
17. Lands acquired and disposed of as lease in perpetuity under Land for Settlements Act, rural	294	34,841
18. Lands acquired and disposed of as small grazing-runs under Land for Settlements Act	3	3,667
19. Lands acquired and disposed of as miscellaneous licenses under Land for Settlements Act	36	431
20. Crown lands open for selection (including 380 acres under Land for Settlements Act)	...	136,247
21. Crown lands being prepared for selection (including 11,392 acres under Land for Settlements Act)	...	18,217
22. Land open for application under pastoral licenses	15	123,788
23. Lands held by aboriginal natives	...	16,140
24. Balance of Crown lands, including mining reserves, public reserves not vested, bush-lands, roads, barren country, &c.	...	986,447
25. Lakes, and Clutha and Taieri Rivers	...	176,000
Total area of district (14,345 square miles),		9,180,800

Tenants of lands included in 2 and 4 have the right of acquiring the freehold, as have tenants of 3 up to twelve years from the date of issue of the lease, and of 6 in the case of leases issued prior to the Act of 1891. There is no right of acquiring the freehold for tenants of lands included in 5, 11, 12, 14, 15, 16, 17, 18, and 19, and in the case of No. 13 the right of acquiring freehold applies to portions only.

Local Industries.

There is not space to give in detail particulars of the various local industries throughout Otago and Southland, but amongst others may be noticed the following: There are four bone-mills and artificial-manure factories, where substances that might otherwise go to waste, or pollute the air and water, are turned to profitable account, and made to increase the fertility of the soil. The lime- and cement-works at Dunedin have already been mentioned. There are thirty brick-, tile-, and pottery-manufactories, the largest pottery-works being at Milton, where all kinds of useful household crockery-ware are made. Twelve agricultural implement factories are in operation, and turn out annually a large supply. There are fourteen boot- and shoe-factories; six boat-building, eighteen coach-building, twenty-eight fellmongering, tanning, and wool-scouring establishments; twenty-two aërated-water and cordial manufactories, seventeen breweries, five coffee and spice works, three fruit- and jam-factories, one ink-making establishment, three paper-mills, six rope- and twine works, one soap- and candle-making establishment, six gasworks, and fifty-one sawmills and door- and sash-making factories. There are also twenty-four foundries, including brass-founders and coppersmiths, beside stove and range manufactories, iron-rolling works, and works for making every description of engineering and mining machinery and appliances; and there is a piano manufactory in Dunedin, which has been open for the last twelve years. The types manufactured are cottage pianos and upright grands, at prices ranging from thirty to sixty guineas. The present output is from twenty-five to thirty per annum.

Besides the above there are eighteen bacon-curing establishments, eight fish-curing and preserving works, two rabbit-preserving works, twenty-three grain-mills, six sugar-boiling and confectionery works, six malt-houses, two colonial wine-making establishments, three sauce and pickle factories, one vinegar works, one glue factory, two boiling-down works, three cooperages, four woodenware factories, six chaff-cutting establishments, one paper-bag and -box factory, one tobacco-pipe factory, six tinware factories, twenty-nine printing offices, four basket and perambulator factories, two brush and broom factories, one cutlery factory, four cycle factories, two saddlery and harness factories, one portmanteau factory, eight sail and oilskin factories, thirteen furniture factories, four Venetian-blind works, two starch manufactories, four chemical works, one hæmatite paint factory, one sheep-dip factory, one match factory, two flock-mills, three cleaning- and dyeing-works, two waterproof factories, three hat- and cap- factories, three stocking-weaving factories, one bag- and sack- factory, seven flax-mills. Also the following, which have been more fully described in preceding paragraphs—namely, nine meat-freezing and -preserving works, four woollen-mills, nine clothing factories, forty-four butter- and cheese-factories: making a total of 516 industrial establishments, employing 7,055 persons. Approximate value of manufactures yearly, £2,153,473.

THE SOUTHLAND LAND DISTRICT.

D. Barron, Chief Surveyor.

Physical Features.

The Southland District, comprising the Counties of Southland, Wallace, Fiord, and Stewart Island, bounded on the north and east by the Otago District, and on the south and west by the Tasman Sea, may be roughly said to lie between south latitudes 45° and 47° and east longitudes 166° 15′ and 169° 15′. For administrative purposes, however, the Snares, Auckland, Enderby, Campbell, Antipodes, Bounty, and all other islands within the limits of the colony south of the 47° parallel of south latitude are included in it.

Area, Nature, and Disposition of Lands.

The total area of the district, including Stewart Island, but exclusive of Solander, Ruapuke, and the other small islands enumerated above, is 6,966,592 acres, of which 500,000 are covered with bush. The bulk of the bush-land lies between the lakes and the south and west coasts, in the neighbourhood of Forest Hill, Hokonui, Waikawa, &c. The timbers of commercial value are totara, rimu, miro, matai, rata, and kamahi, in mixed bushes; but *Fagus fusca* and other beeches predominate on the high lands between the lakes and the fiords on the west coast.

The open land in its natural state carries tussock and snow-grass, fern, flax, and manuka, &c., and there is a very considerable area of marsh-land, interspersed here and there with peat bogs.

The disposition of the land is as follows:—

	Acres.
Crown lands alienated to date	1,561,619
Lands held on deferred payment	24,285
Lands held on perpetual lease	27,032
Lands held on lease in perpetuity	66,710
Lands held in occupation with right of purchase	22,288
Land held under "The Mining Districts Land Occupation Act, 1894"	1,336
Village-homestead special settlements	604
Improved-farm special settlements	4,978
Small grazing-runs	61,906
Pastoral runs	1,250,795
Endowments and miscellaneous purposes	622,527
Open for selection	167,692
Under preparation for settlement	23,600
Pastoral runs open for lease	1,337,169
Held by aboriginal natives	11,890
Lands of small value not open for sale	428,951
Barren mountain-tops, &c.	1,353,210
Total area	6,966,592

The most striking feature of this district is the number of well-defined rivers and valleys, the latter often widening out to such an extent as to form very extensive plains. Commencing with the eastern side, the Mataura, Oreti (or New River), Aparima (or Jacob's River), and Waiau are the most prominent illustrations of this; but these rivers by no means exhaust the list, as they all have numerous tributaries, which exhibit the same features on a smaller scale.

Speaking generally, the watersheds of these rivers do not attain any great height until followed far inland, and near the great lakes to be presently noticed. From what has been said above it follows that the extensive plains and valleys referred to are of alluvial formation, in many places of very rich and fertile quality, and capable of raising crops of every known product, subject, of course, to climatic limitations. Generally these plains and valleys rise from the river-levels in a very gradual slope, sometimes into a series of terraces from 10ft. to 50ft. in height, and sometimes into undulating hills, intersected at frequent intervals by lateral gullies, affording natural drainage and an abundant supply of water.

These hills are covered with an indigenous growth, consisting of tussock and other grasses, fern, flax, &c., and even in their native state afford excellent grazing for sheep.

Near the large lakes, such as Wakatipu, Te Anau, Manapouri, Hauroto, and others, and between these and the West Coast, the country becomes very high, often reaching 5,000ft. and 6,000ft. above sea-level, with very steep and rugged spurs and ravines, these in most cases being covered with a dense growth of timber, principally of the birch or beech tribe, for two-thirds of their height: the tops, however, often carry tussock and other herbage, affording admirable pasture for sheep in summer; but stock have to be removed from April to October, during which period this country is generally covered with snow.

Southland does not contain so much forest as most of the North Island districts, nevertheless there is a very considerable quantity in the eastern, southern, and western parts, and a large export trade is done in the different kinds of pine and other timbers used for building, engineering, furniture-making, &c.

From what has been said of the river systems it will be evident that the country is well supplied with water, although none of the rivers can be used for purposes of internal communication; but the plains are traversed by railways for considerable distances from the principal towns, and where the railways end communication is continued by good roads, so that there is probably no part of the colony so well off for means of transit.

Agriculture.

Having already touched on the character of the soil, it only remains to say that the plains, terraces, and lower hills are well adapted for raising wheat, oats, and other cereals, turnips, mangolds, beets, and the various other crops common to temperate climates. Wheat is not so widely grown as it might be, for the reason, probably, that the pastoral branches of farming receive more attention than the agricultural, and wheat is not required for these; whereas oats are largely grown to feed sheep in the form of chaff; turnips also are much cultivated for winter food. Where wheat is grown the yields are very satisfactory, ranging from 40 to 60 bushels per acre, while oats frequently give 80 to 100 bushels.

Linseed is now receiving some attention from farmers, as they find ready sale for it to the manufacturing chemists at remunerative prices, a fair crop yielding over £5 per acre.

Dairy-farming, &c.

Dairy-farming is becoming a very important industry, and is rapidly expanding under the impetus it has received through improved appliances and the favourable state of the Home markets. There are a number of cheese- and butter-factories, and one for preserving milk on the Swiss system. One firm makes Stilton cheese, which is considered to be equal to cheese of the same kind made in England.

Sheep-farming.

By far the most important industries are those connected with the raising and export of mutton and wool. Some years ago sheep-farming was much hindered by the inroads of rabbits; but owing to the repressive measures adopted there has been a marked abatement of the pest, even on high back-country, and thus it has come to pass that country which a few years ago was absolutely denuded of vegetation now shows unmistakable signs of recovery. The hill-country, although it does not carry a large proportion of stock to area, is eminently healthy. The average carrying-capacity over the whole district would probably be under one sheep to the acre. Until within the last few years most of the runs were stocked with merinos, but owing to the decline in price of merino wool, and to the carcase being unacceptable to the European market, these sheep have, generally speaking, been replaced by Leicesters, Lincolns, Romney Marsh, Cheviot, and crossbreds of various kinds, better suited to the existing demands. Large establishments for slaughtering and freezing sheep are at work. The latest of these, erected near the Bluff Harbour, is considered to be the most complete in the colony, being provided with all possible labour-saving machinery and appliances for working up the by-products into articles of commerce.

Coal and Gold.

Extensive seams of coal and lignite are distributed over the district, and in many places the annual output is considerable. Peat is also found in some up-country neighbourhoods, and is used for fuel where wood and coal are scarce. Gold is found all over the district, and a large number of persons are engaged in obtaining it either by sluicing or dredging. A considerable amount of capital has been invested in beach-dredges worked by steam. Not long ago gold-bearing reefs, reported to be of great richness, were discovered at Wilson's River, near Preservation Inlet.

Fish.

Salt-water fish abound in great quantities in the waters surrounding Stewart Island, and oysters are found on banks between that island and the Bluff. All the large rivers, and many of the tributaries, are well stocked with trout, and one river—the Aparima—had salmon-spawn put into it some years ago.

Fruit.

The small English fruits, such as gooseberries, currants, raspberries, strawberries, &c., grow in great profusion, as do also apples. Stone-fruits are not so common, although peaches, nectarines, apricots, &c., do well when trained against nursery-walls in favourable aspects.

Climate.

The climate is bracing in winter, and warm and genial in spring and summer. The old residents state that there has been a marked decrease in the rainfall within the last decade. No regular observations have been recorded for the last few years, but it is believed that the average is about 30 in. a year. It may, however, be observed that more rain falls near the coast than inland, and also that the rainfall is more evenly distributed throughout the year than is the case in the northern part of the colony. The temperature varies from 40° in winter to 70° in summer.

Towns.

Invercargill, the chief town, was from the first well laid out with wide streets, and liberal reserves in the town belts for recreation purposes. The Corporation exercises a paternal care in providing water, gas, and in disposing of sewage, &c., for the citizens; and the streets are well lighted, paved, and maintained. Artesian water is pumped to the top of a handsome brick tower—which, by the way, is a very conspicuous landmark—and stored there in a tank, from which most of the houses within the town boundaries are supplied. The population, including suburbs, is nearly 10,000. All religious denominations are represented. There are rope-and-twine, carriage- and implement-factories, flour- and saw-mills, fellmongeries, brick- and pottery-works, iron-foundries, and various other industries. Exceptionally good beer is brewed here, and there are three first-class hotels. The Government Buildings, lately enlarged, are on a scale not often seen in a town of the same size. A clock and chimes of New Zealand make have been placed in the central tower. Although the Bluff is the principal port, Invercargill is provided with a second harbour for smaller vessels, in the New River Estuary, where there is a jetty with appliances for handling and receiving goods within the town boundaries.

The Bluff Harbour, which is connected by rail with Invercargill, does a very large shipping business, and derives additional importance from being the first and last port of call for steamers trading with Victoria and Tasmania.

Next in size to Invercargill is the Town of Gore, situated on the Mataura River, and at the junction of the trunk railway with the Waimea Plains Branch. Owing to this fact, and to the fertility of the land in the neighbourhood, Gore is rapidly growing in size and importance.

Riverton is a pretty little town, about twenty-five miles from Invercargill, with which it is connected by rail, and is situated on the estuary of Aparima or Jacob's River. This is the oldest settlement in Southland, and was a great resort for whalers in former years. The harbour is available for coasting-vessels, but the principal carrying-trade is done by rail. There are several sawmills in the neighbourhood.

The Town of Winton is on the Invercargill–Kingston Railway, about twenty miles distant from the latter, and is the centre for a good farming, sawmilling, and coal-mining district.

Lumsden is the junction of the Kingston and Waimea Plains lines. Coaches starting from this place take passengers and mails to the Lake country.

East of Invercargill is Fortrose, on the estuary of Mataura River, which can be entered by coasting-steamers. This place is surrounded by an exceptionally fertile agricultural and pastoral country.

Eastward of Fortrose and about midway between that place and Catlin's River is Waikawa, a newly-settled township with a first-class harbour for coasters, and a very large area of Crown land around it available for settlement. Steamers trading with Dunedin and Invercargill call here and at Fortrose at regular intervals.

Crown Lands for Disposal.

There remains for disposal a very large area of Crown land, probably more than 500,000 acres, but this can be estimated only roughly, because much of the district west of Waiau River is practically unexplored. It is true that this is chiefly forest-land, but it is beginning to be recognised here, as in the North Island, that when such land is once cleared and laid down with grass it is distinctly superior to most open country for grazing purposes; and grazing is and will long remain the principal industry of the colony. The land referred to lies around Waikawa Harbour, along the Waikawa–Catlin's Road, between the Jacob's and Waiau Rivers, and to the west of the Waiau. Stewart Island also contains a wide extent of Crown lands, mostly forest-clad. There are also considerable areas of open hilly country, carrying natural grasses, still in the hands of Government. These are to be found in various parts of the district, but are being rapidly taken up.

APPENDIX.

PRINCIPAL EVENTS.

DATES OF SOME OF THE PRINCIPAL EVENTS IN THE HISTORY OF NEW ZEALAND.

Dec. 13, 1642.—Discovery of New Zealand by Abel Jansen Tasman.

Oct. 8, 1769.—Captain Cook landed at Poverty Bay on his first visit.

June 30, 1788.—Macauly and Curtis Islands, of the Kermadec Group, discovered by Captain Sever, of H.M. transport "Lady Penrhyn."

Nov. 29, 1790.—Chatham Islands discovered by Lieutenant Broughton, in H.M.S. "Chatham."

Nov. 17, 1793.—Captain d'Entrecasteaux, with the "La Recherche" and "L'Espérance," discovered Raoul or Sunday Island. (The latter name was given by Captain Raven, of the transport "Britannia," who visited the island 6th Nov., 1796.)

Nov., 1793.—Lieutenant-Governor King's (of Norfolk Island) visit to Doubtless Bay.

1795.—The ship "Endeavour," Captain Bampton, sunk at Facile Harbour, Dusky Sound.

1800.—Antipodes Island discovered by Captain Pendleton.

1807.—Defeat of Hongi and Nga-Puhi tribe at Moremonui, 10 miles south of Maunganui Bluff, Kaipara.

1806.—Auckland Isles discovered by Captain Briscow, ship "Ocean," one of Enderby's whalers.

1806.—Ship "Venus" visited East Coast of New Zealand. She was taken by convicts at Port Dalrymple, Tasmania. Their visits gave rise to the Nga-Puhi southern expedition.

1809.—The taking and burning of the transport "Boyd" at Whangaroa.

1810.—Campbell Island discovered by Captain F. Haselburg, of brig "Perseverance."

1814.—First arrival of the Rev. Mr. Marsden at Bay of Islands, and introduction of Christianity. Horses, oxen, sheep, and poultry first brought to the colony.

Aug., 1815.—Attempted capture of the "Trial" and "Brothers" at Kennedy Bay.

1818.—Hongi's and Te Morenga's great expedition to East Cape.

1819–20.—Patuone, Nene, and Te Rauparaha's raid on Taranaki and Port Nicholson.

1820.—Hongi visited England; returned to New Zealand July, 1821.

1820.—H.M. store ship "Coromandel" visited Coromandel.

1820.—Rev. S. Marsden travelled from Wai-te-mata *viâ* Kaipara to the Bay of Islands—the first white man to do so.

Aug., 1820.—The "Prince Regent" entered Auckland Harbour—the first vessel to do so.

Nov., 1821.—Fall of Mauinaina Pa, Auckland Isthmus, to Hongi.

Nov., 1821.—Ngati-Toa migration from Kawhia to Otaki under Te Rauparaha.

Dec., 1821.—Fall of Te Totara Pa, Thames, to Hongi.

May, 1822.—Fall of Matakitaki Pa, Waikato, to Hongi.

May, 1823.—Fall of Mokoia Pa, Rotorua Lake, to Hongi.

1823, 1828.—Acts passed by the Imperial Parliament extending the jurisdiction of the Courts of justice in New South Wales to all the British subjects in New Zealand.

1824.—Fall of Te Whetumatarau Pa, near East Cape, to Pomare.

1825.—First attempt at colonisation by an expedition under the command of Captain Herd, who bought two islands in the Hauraki Gulf.

Feb., 1825.—Great defeat of Ngati-Whatua at Te Ikaaranganui, Kaipara, by Hongi.

1827.—Destruction of mission-station at Whangaroa by Hongi's forces.

Feb., 1827.—Admiral (then Captain) Dumont D'Urville anchored in Auckland Harbour.

1828.—Hongi died at Whangaroa, from wounds received at Hokianga.

1828.—The "Maquarie," Captain Kent, the first vessel to enter Kawhia.

March, 1829.—Brig "Hawes" captured at Whakatane by Maoris.

1830.—Battle of Taumata-wiwi, near Cambridge.

1830.—Fall of Kaiapohia Pa, Canterbury.

March 6, 1830.—Battle of Kororareka, between two Nga-Puhi tribes.

Dec., 1830.—Death of Tama-i-hara-nui at the hands of Te Rauparaha's people. He was brought from Port Cooper by Captain Steward, brig "Elizabeth."

1831.—Tory Channel whaling-station established.

1831.—Application of thirteen chiefs for the protection of King William the Fourth.

Dec., 1831.—Pukerangiora Pa, Waitara, fell to Waikato.

Feb., 1832.—Repulse of Waikato at Nga-motu Pa, under Dicky Barrett.

1833.—Mr. Busby appointed British Resident, to live at the Bay of Islands.

1834.—Battle of Haowhenua and Pakakutu, near Otaki.

1834.—Bishop Williams's first visit to East Cape.

April 29, 1834.—"Harriet" wrecked at Cape Egmont.

Oct. 1, 1834.—H.M.S. "Alligator" shelled and took Waimate Pa, near Opunake. First occasion of H.M. troops being employed in New Zealand.

1835.—Declaration of independence of the whole of New Zealand as one nation, with the title of "The United Tribes of New Zealand."

Nov. and Dec., 1835.—Ngati-Awa tribes migrated to and conquered the Chatham Islands.

March 28, 1836.—Maketu Pa, Bay of Plenty, fell to Waikato.

May 9, 1836.—Te Tumu Pa, Bay of Plenty, fell to Te Arawa.

Aug. 5, 1836.—Battle at Matai-puku, Rotorua—Waikato beat Te Arawa.

Oct.. 1836.—Siege of Toka-a-kuku, Te Kaha, Bay of Plenty.

1838.—The Roman Catholic Bishop Pompallier, with several priests, arrived at Hokianga.

Sept. 1, 1838.—H.M.S. "Pelorus" discovers Pelorus Sound.

April, 1839.—Taking of the French whaler "Jean Bart" at Chatham Islands by Maoris.

May 12, 1839.—Departure of the preliminary expedition of the New Zealand Company from England.

June, 1839.—Issue of Letters Patent authorising the Governor of New South Wales to include within the limits of that colony any territory that might be acquired in sovereignty by Her Majesty in New Zealand.

Sept. 16, 1839.—First body of New Zealand Company's emigrants sailed from Gravesend.

Sept. 20, 1839.—Arrival in Port Nicholson of the preliminary expedition of the New Zealand Company under Colonel Wakefield.

Oct. 16, 1839.—Battle of Te Kuititanga, Otaki.

Jan. 20, 1840.—First steamer arrived in New Zealand.

Jan. 22, 1840.—Arrival of first body of immigrants at Port Nicholson.

Jan. 29, 1840.—Captain Hobson, R.N., arrived at the Bay of Islands. On the following day (Jan. 30) he hoisted the Union flag, and read the commission, under the Great Seal of the United Kingdom, which extended the boundaries of the Colony of New South Wales so as to embrace and comprehend the Islands of New Zealand; also his own commission as Lieutenant-Governor over territory that might be acquired in sovereignty.

Feb. 5, 1840.—Treaty of Waitangi signed.

May 21, 1840.—Date of Proclamations of sovereignty over the Islands of New Zealand.

June 17, 1840.—The Queen's sovereignty over the Middle Island formally proclaimed at Cloudy Bay, by Major Bunbury, H.M. 80th Regiment, and Captain Nias, R.N.

Aug. 11, 1840.—The British flag hoisted at Akaroa by Captain Stanley, R.N., and British authority established. The French frigate "L'Aube" arrived there on the 13th August, and the vessel "Comte de Paris," with fifty-seven immigrants, on the 16th August, in order to establish a French colony.

Sept. 18, 1840.—The British flag hoisted at Auckland. The Lieutenant-Governor's residence established there.

1840.—Formation of Wanganui settlement under the name of "Petre."

Feb. 12, 1841.—Issue of charter of incorporation to the New Zealand Company.

Mar. 31, 1841.—Arrival of first New Plymouth settlers.

May 3, 1841.—New Zealand proclaimed to be independent of New South Wales.

Oct., 1841.—Selection of site for settlement at Nelson.

Feb. 1, 1842.—Settlement founded at Nelson.

May 29, 1842.—Arrival of Bishop Selwyn in the colony.

Sept. 10, 1842.—Death of Governor Hobson. Lieutenant Shortland, R.N., Colonial Secretary, became Acting-Governor until the arrival of Captain Fitzroy.

June, 1843.—Affray with Natives at the Wairau, and massacre by Rangihaeata of Captain Wakefield, R.N., agent at Nelson of the New Zealand Company, and others, who had surrendered.

Dec. 1, 1843.—Arrival of Captain Fitzroy, R.N., as Governor.

July 8, 1844.—The Royal flagstaff at Kororareka cut down by Heke.

March 10, 1845.—Attack on and destruction of Town of Kororareka by Heke.

Oct. 1, 1845.—Receipt of despatch notifying recall of Governor Fitzroy.

Nov. 14, 1845.—Arrival of Captain Grey, as Lieutenant-Governor of the colony, from South Australia.

Jan. 11, 1846.—Capture of pa at Ruapekapeka, Bay of Islands, and termination of Heke's war.

Mar. 3, 1846.—Commencement of Native hostilities in the Hutt Valley, near Wellington.

May 16, 1846.—Attack by Natives on a military outpost in the Hutt Valley.

July 23, 1846.—Capture of Te Rauparaha at Porirua, near Wellington. He was detained for a year as a prisoner on board a ship of war.

Aug. 28, 1846.—The New Zealand Government Act passed by the Imperial Parliament, under which a charter was issued dividing the colony into two provinces, and granting representative institutions.

May 19, 1847.—Attack by Natives on settlement of Wanganui.

Jan. 1, 1848.—Captain Grey sworn in as Governor-in-Chief over the Islands of New Zealand, also as Governor of the Province of New Ulster and Governor of the Province of New Munster.

Jan. 3, 1848.—Major-General Pitt appointed by Governor Grey to be Lieutenant-Governor of the Province of New Ulster.

Jan. 28, 1848.—Assumption by Lieutenant-Governor E. J. Eyre, at Wellington, of the administration of the Government of the Province of New Munster.

Feb. 21, 1848.—Peace ratified at Wanganui.

Mar. 7, 1848.—Suspension by Imperial statute of that part of the New Zealand Government Act which had conferred representative institutions.

Mar., 1848.—Otago founded by a Scotch company under the auspices of the Free Church of Scotland.

Oct., 1848.—Severe earthquake at Wellington.

July, 1850.—Surrender of the New Zealand Company's charter, all its interests in the colony reverting to the Imperial Government.

Dec., 1850.—Canterbury founded by the Canterbury Association in connection with the Church of England.

Jan. 8, 1851.—Death of Major-General Pitt, Lieutenant-Governor of the Province of New Ulster.

April 14, 1851.—Lieutenant-Colonel Wynyard appointed Lieutenant-Governor of the Province of New Ulster.

1852.—Discovery of gold at Coromandel by Mr. Charles Ring.

June 30, 1852.—The Constitution Act passed by the Imperial Parliament, granting representative institutions to the colony, and subdividing it into six provinces.

Jan., 1853.—Promulgation of the Constitution Act.

Mar. 7, 1853.—Assumption by Sir George Grey, K.C.B., of the duties of Governor of the colony, in terms of the appointment after the passing of the New Zealand Constitution Act, and cessation of the duties of the Lieutenant-Governors of New Ulster and New Munster.

Dec. 31, 1853.—Departure of Governor Sir George Grey.

Jan. 3, 1854.—Lieutenant-Colonel Wynyard assumed the administration of the Government.

May 27, 1854.—Opening at Auckland of the first session of the General Assembly by Lieutenant-Colonel Wynyard, Administrator of the Government.

Jan., 1855.—Very severe earthquake on each side of Cook Strait.

Sept. 6, 1855.—Arrival of Governor Colonel T. Gore Browne, C.B.

Nov. 12, 1855.—First members elected to House of Representatives under system of Responsible Government.

Aug. 8, 1855.—General Assembly opened.

Sept. 15, 1855.—General Assembly prorogued.

May 7, 1856.—Appointment of the first Ministry under the system of Responsible Government, under Mr. Sewell, Colonial Secretary.

May 14, 1856.—Defeat of Mr. Sewell's Ministry.

May 20, 1856.—Appointment of a Ministry under presidency of Mr. W. Fox, as Attorney-General.

May 28, 1856.—Defeat of Mr. Fox's Ministry, by a majority of one, on a direct vote of want of confidence.

June 2, 1856.—Appointment of a Ministry under the presidency of Mr. E. W. Stafford.

1857.—First payable goldfield in the colony opened at Collingwood, in the Nelson Province.

Nov. 1, 1858.—Establishment of the Province of Hawke's Bay.

March, 1859.—Te Teira offered land at Waitara for sale to the Government.

Nov. 1, 1859.—Establishment of the Province of Marlborough.

Mar., 1860.—Commencement of hostilities against Wiremu Kingi te Rangitake at Waitara.

Mar. 18, 1860.—Capture of Maori pa at Waitara.

Mar. 28, 1860.—Engagement at Waireka.

June 27, 1860.—Engagement of Puketakauere at Waitara.

Nov. 6, 1860.—Defeat at Mahoetahi, with heavy loss, of a force of Waikato Natives, who had crossed the Waitara River to join Wiremu Kingi.

Dec. 31, 1860.—Capture of the Matarikoriko Pa, and defeat of a large body of Waikato Natives.

Jan. 23, 1861.—The Natives made a determined attack on the redoubt at Huirangi occupied by Imperial troops, and were repulsed with heavy loss.

April 1, 1861.—Establishment of Province of Southland.

May 21, 1861.—A truce agreed to.

May, 1861.—Discovery of gold at Gabriel's Gully, Otago.

July 5, 1861.—Defeat of Mr. Stafford's Ministry, by a majority of one, on a vote of want of confidence.

July 12, 1861.—Appointment of a Ministry under the premiership of Mr. Fox.

July 29, 1861.—Incorporation of the Bank of New Zealand.

Sept. 26, 1861.—Arrival of Sir George Grey, K.C.B., at Auckland, from the Cape Colony, to succeed Governor Gore Browne. Sir George Grey was sworn in as Governor on the 3rd October.

Oct. 2, 1861.—Departure of Governor Gore Browne.

June 28, 1862.—Coromandel proclaimed a goldfield.

July 28, 1862.—Defeat of Mr. Fox's Ministry by the casting-vote of the Speaker, on a proposed resolution in favour of placing the ordinary conduct of Native affairs under the administration of the Responsible Ministers.

Aug. 6, 1862.—Appointment of a Ministry under the leadership of Mr. Alfred Domett.

Feb. 7, 1863.—Wreck of H.M.S. "Orpheus" on Manukau Bar; 181 lives lost.

Feb. 26, 1863.—Definite relinquishment by the Imperial Government of control over administration of Native affairs.

May 4, 1863.—Treacherous assault near Tataraimaka by Natives on a military escort. Murder of Lieutenant Tragett, Dr. Hope, and five soldiers of the 57th Regiment.

June 4, 1863.—Defeat of Natives at Katikara, by a force under Lieut.-General Cameron.

July 17, 1863.—Action at Koheroa, in the Auckland Province. Commencement of the Waikato War.

Oct. 27, 1863.—Resignation of the Domett Ministry, in consequence of difficulties experienced in connection with arrangements for finding a fitting representative of the Government in the Legislative Council.

Oct. 30, 1863.—Appointment of the Ministry formed by Mr. Fox, under the premiership of Mr. F. Whitaker.

Nov., 1863.—Acceptance by the General Assembly of colonial responsibility in Native affairs.

Nov. 20, 1863.—Battle of Rangiriri. Defeat of Natives and unconditional surrender of 183.

Dec. 1, 1863.—The first railway in New Zealand opened for traffic by W. S. Moorhouse, Superintendent of Canterbury. The line was from Christchurch to Ferrymead Junction.

Dec. 3, 1863.—The New Zealand Settlements Act passed, giving the Governor power to confiscate the lands of insurgent Natives.

Dec. 8, 1863.—Occupation of Ngaruawahia. The British flag hoisted on the Maori king's flagstaff.

Feb. 11, 1864.—Engagement with Natives on Mangapiko River. Major (then Captain) Heaphy, of the New Zealand Forces, won the Victoria Cross for distinguished bravery on this occasion.

Feb. 22, 1864.—Defeat of Natives at Rangiaohia.

April 2, 1864.—Attack on and capture of pa at Orakau, Waikato.

April 21, 1864.—Engagement near Maketu, Bay of Plenty. Tribes of the Rawhiti defeated by Arawa Natives, under Captain McDonnell.

April 29, 1864.—Assault on Gate Pa, Tauranga, Bay of Plenty, and repulse of large British force by the Maoris. The pa was abandoned by the Natives during the following night.

April 30, 1864.—Repulse of attack by rebel Hauhau Natives on redoubt at Sentry Hill, Taranaki.

May 14, 1864.—Battle of Moutoa, an island in the Wanganui River, between friendly and rebel Hauhau Natives. Complete defeat of rebels.

June 21, 1864.—Engagement at Te Ranga, near Tauranga, by Lieut.-Colonel Greer, 68th Regiment. Severe defeat of the Natives.

1864.—Discovery of gold on the west coast of the Middle Island.

Sept. 10, 1864.—Escape of Maori prisoners from Kawau.

Oct. 3, 1864.—Wellington chosen as the seat of Government.

Nov. 24, 1864.—Appointment of a Ministry under the premiership of Mr. F. A. Weld, the Whitaker-Fox Ministry having resigned during the recess.

Dec. 17, 1864.—Confiscation of Native lands in Waikato by Sir George Grey.

Feb., 1865.—Removal of the seat of Government to Wellington.

March 2, 1865.—Barbarous murder of the Rev. Mr. Volkner, a Church of England missionary, at Opotiki, by Hauhau fanatics, under Kereopa.

June 8, 1865.—Submission of the Maori Chief Wiremu Tamihana te Waharoa (William Thompson).

June 17, 1865.—Murder of Mr. Fulloon, a Government officer, and his companions, at Whakatane, by Hauhau fanatics.

July 22, 1865.—Capture of the Wereroa Pa, near Wanganui.

Aug. 2, 1865.—Assault and capture of the Pa Kairomiromi, at Waiapu, by *Colonial* Forces under Captain Fraser, and Native Contingent under the chief *Te Mokena*. Eighty-seven rebels killed.

Sept. 2, 1865.—Proclamation of peace issued by Governor Sir George Grey, announcing that the war, which commenced at Oakura, was at an end.

Sept. 30, 1865.—Murder by Hauhaus, at Kakaramea, of Mr. Broughton, when sent as friendly messenger to them by Brigadier-General Waddy.

Oct. 12, 1865.—Resignation of Mr. Weld's Ministry, on account of a resolution adverse to the Government policy, having been defeated only by the casting-vote of the Speaker.

Oct. 16, 1865.—Appointment of a Ministry under the premiership of Mr. E. W. Stafford.

Dec. 25, 1865.—Defeat of rebel Natives at Wairoa, Hawke's Bay, by Colonial Forces and Native Contingent.

Jan. 4, 1866.—Defeat of Natives at Okotuku Pa, on the west coast of the North Island, by force under Major-General Chute.

Jan. 7, 1866.—Assault on and capture of Putahi Pa, by force under Major-General Chute.

Jan. 13, 1866.—Assault on and capture of Otapawa Pa, by force under Major-General Chute.

Jan. 17, 1866, to Jan. 25, 1866.—Period of Major-General Chute's march through the bush to New Plymouth.

Jan., 1866.—Escape of a large number of Native prisoners from the hulk at Wellington; many were drowned in trying to swim ashore.

March 29, 1866.—Submission of the rebel chiefs Te Heuheu and Herekiekie, of Taupo district.

Mar., 1866.—A detachment of Maori prisoners sent to the Chatham Islands.

June 15, 1866.—Commencement of Panama steam mail-service.

Aug. 26, 1866.—The Cook Strait submarine telegraph cable laid.

Oct. 2, 1866.—Engagement with rebel Natives at Pungarehu, West Coast, by Colonial Forces, under Major McDonnell.

Oct. 8, 1866.—First Act passed to impose stamp duties.

Oct. 12, 1866.—Defeats of rebel Natives at Omaranui and at Petane, Hawke's Bay, by Colonial Forces.

Oct. 10, 1867.—An Act passed to establish an institute for the promotion of science and art in the colony.

Oct. 10, 1867.—An Act passed for the division of the colony into four Maori electorates, and the admission of four Maori members to the House of Representatives.

Jan., 1868.—Establishment of the County of Westland.

Feb. 5, 1868.—Arrival of Governor Sir George F. Bowen, G.C.M.G.

July 4, 1868.—Seizure by Maori prisoners, under the leadership of Te Kooti, of the schooner "Rifleman," and their escape from the Chatham Islands.

July 12, 1868.—Night attack by Natives on redoubt at Turuturu Mokai. Sub-Inspector Ross and seven Europeans killed. Natives driven off by the arrival of a force under Major Von Tempsky.

Aug. 8, 1868.—Pursuit by Lieut.-Colonel Whitmore of escaped Chatham Island prisoners, and indecisive engagement in the gorge of the Ruake Ture.

Aug. 21, 1868.—Attack on Ngutu-o-te-Manu by force under Lieut.-Colonel McDonnell. Defeat of Natives; four Europeans killed and eight wounded.

Sept. 7, 1868.—Engagement in bush at Ngutu-o-te-Manu. Major Von Tempsky, Captains Buck and Palmer, Lieutenants Hunter and Hastings, and fourteen men killed.

Oct. 19, 1868.—Bishop Selwyn left New Zealand.

Nov. 7, 1868.—Attack on Moturoa. Repulse of Colonial Forces, with severe loss.

Nov. 10, 1868.—Massacre of thirty-two Europeans at Poverty Bay by Te Kooti's band of Natives, who had escaped from the Chatham Islands.

Nov. 24, 1868, Dec. 3, 1868, Dec. 5, 1868.—Engagements between friendly Natives and rebels under Te Kooti, at Patutahi, Poverty Bay district.

Jan. 5, 1869.—Assault on and capture of Ngatapa Pa, Poverty Bay district, after a siege of six days, by the Colonial Forces of Europeans and friendly Natives. Dispersion and pursuit of Te Kooti's band. More than 136 rebel Natives were killed.

Feb. 13, 1869.—Treacherous murder of the Rev. John Whitely and seven other Europeans at the White Cliffs, Taranaki.

Feb. 18, 1869.—Attack by rebel Natives on a foraging-party at Karaka Flat; one sergeant and six men killed.

Mar. 3, 1869.—Termination of Panama mail-service.

Mar. 13, 1869.—Attack on and defeat of Titokowaru's force at Otauto.

April 10, 1869.—Native pa at Mohaka taken by Te Kooti, who killed forty friendly Natives and several Europeans in the neighbourhood.

April 12, 1869.—First arrival of H.R.H. the Duke of Edinburgh in Wellington, in H.M.S. "Galatea."

May 6, 1869.—Surprise and capture of Ahikereru and Oamaru Teangi Pas, Waiwera country. Defeat of Te Kooti.

June 13, 1869.—Surrender to Major Noake and Mr. Booth, R.M., of the chief Tairua, with 122 men, women, and children of the Pakakohe Tribe, near Wanganui.

June 24, 1869.—Defeat of Mr. Stafford's Ministry on a want-of-confidence motion.

June 28, 1869.—Appointment of a Ministry under the premiership of Mr. W. Fox.

Sept. 3, 1869.—An Act passed providing Government life insurance and annuities.

Oct., 1869.—Seventy-four prisoners from the bands of Te Kooti and Titokowaru sentenced to death, after trial, for treason. The sentences of seventy-three were commuted to penal servitude for various terms.

Oct. 4, 1869.—Pourere Pa stormed and taken by Lieut.-Colonel McDonnell, with a mixed force of Europeans and Natives.

Jan., 1870.—Three hundred friendly Natives under Topia, and three hundred under Major Kepa (known as Kemp), started up the Wanganui River in pursuit of Te Kooti, who retreated into the Urewera country.

Jan. 25, 1870.—Capture of Tapapa Pa, occupied by Te Kooti.

Feb. 24, 1870.—The last detachment of the Imperial troops left the colony.

Mar. 25, 1870.—Major Kepa, with Native force, captured the position held by Te Kooti at Maraetahi, in Urewera country; nineteen rebels killed and seventy-three of Te Kooti's men taken prisoners. Te Kooti escaped with twenty followers.

Mar. 26, 1870.—Commencement of San Francisco mail-service.

June 28, 1870.—Enunciation in the House of Representatives of the public-works policy by the Colonial Treasurer, Mr. Vogel.

July, 1870.—Thirty prisoners of Te Kooti's band sentenced to death. The sentences were commuted to penal servitude.

Aug. 27, 1870.—Arrival in Wellington of H.R.H. the Duke of Edinburgh in H.M.S. "Galatea." Second visit.

Sept. 12, 1870.—An Act passed to establish the New Zealand University.

Sep. 12, 1870.—The Land Transfer Act passed, to simplify the title to land and dealings with real estates.

Oct. 6, 1870.—Southland Province reunited with Otago.

Dec. 5, 1870.—Honiani te Puni, the chief of the Ngatiawas, a staunch friend of the Europeans, died at Pitone, near Wellington, aged ninety years.

Mar., 1871.—Commencement of railway-construction under the public-works policy.

Aug. 4, 1871.—Death of Tamati Waka Nene, the great Ngapuhi chief and friend of the Europeans.

Nov., 1871.—Capture of the notorious rebel Kereopa, the murderer of the Rev. Mr. Volkner, by the Ngatiporous.

Jan. 5, 1872.—Execution of Kereopa at Napier.

Jan., 1872.—Remission of sentences on fifty-eight Native prisoners then undergoing imprisonment for rebellion.

Feb. 22, 1872.—Visit of William King, the Maori chief of Waitara, to New Plymouth, and resumption of amicable relations with the Europeans.

May 9, 1872.—A general thanksgiving-day for the recovery of H.R.H. the *Prince of Wales.*

Sept. 6, 1872.—Defeat and resignation of Mr. Fox's Ministry.

Sept. 10, 1872.—Appointment of a Ministry under the premiership of the Hon. E. W. Stafford.

Oct. 4, 1872.—Defeat of the Stafford Ministry on a vote of want of confidence moved by Mr. Vogel.

Oct. 11, 1872.—Appointment of a Ministry under the premiership of the Hon. G. M. Waterhouse, M.L.C.

Oct. 11, 1872.—First appointment of Maori chiefs (two) to be members of the Legislative Council.

Oct. 25, 1872.—The Public Trust Office Act passed.

Jan., 1873.—Establishment of the New Zealand Shipping Company.

Mar. 3, 1873.—The Hon. W. Fox appointed Premier on the resignation of that office by the Hon. G. M. Waterhouse, the other members of the Ministry being confirmed in their offices.

Mar. 19, 1873.—Departure of Governor Sir G. F. Bowen, G.C.M.G.

Mar. 21, 1873.—Assumption of the Government by Sir G. A. Arney, Chief Justice, as Administrator.

April 8, 1873.—Resignation of the premiership by the Hon. W. Fox, on the return of the Hon. J. Vogel, C.M.G., from Australia. Appointment of Mr. Vogel as Premier, the other Ministers being confirmed in their offices.

June 14, 1873.—Arrival of Governor Sir J. Fergusson, P.C.

Aug. 22, 1874.—The Imprisonment for Debt Abolition Act passed.

Nov. 27, 1874.—Sir James Fergusson left New Zealand.

Dec. 3, 1874.—Arrival of Governor the Marquis of Normanby, P.C.

1874.—31,774 immigrants were introduced this year under the immigration and public-works policy.

Jan. 3, 1875.—Visit of Sir Donald McLean to the Maori king; resumption of amicable relations.

July 6, 1875.—Resignation of the Ministry, in consequence of the absence of Sir J. Vogel, K.C.M.G., in England, and his being unable to attend the session of Parliament. Reconstitution thereof, under the premiership of the Hon. Dr. Pollen, M.L.C.

July, 1875.—Establishment of the Union Steam Shipping Company of New Zealand.

1875.—18,324 immigrants were introduced this year under the immigration and public-works policy.

Oct. 12, 1875.—The Abolition of Provinces Act passed.

Feb. 15, 1876.—Resignation of the Hon. Dr. Pollen's Ministry, and reconstitution under the premiership of Sir J. Vogel, K.C.M.G.

Feb. 18, 1876.—Completion of the work of laying the telegraph cable between New Zealand and New South Wales.

June, 1876.—Death of Dr. Isaac Earl Featherston, while acting as Agent-General for the colony in England. He was the first to hold that office, and had previously been Superintendent of the Province of Wellington from the time of the first establishment of provincial representative institutions.

Sept. 1, 1876.—Resignation of Sir J. Vogel's Ministry in view of the appointment of Sir J. Vogel as Agent-General. Formation of a Ministry under the premiership of Major Atkinson.

Sept. 13, 1876.—Resignation of Major Atkinson's Ministry in consequence of doubts being entertained as to the constitutional position thereof. Reconstruction of the Ministry under the premiership of Major Atkinson.

Nov. 1, 1876.—"The Abolition of Provinces Act, 1875," came into full operation. Complete abolition of provincial institutions. The colony subdivided into counties and municipal boroughs.

Oct. 8, 1877.—Defeat of the Atkinson Ministry on a vote of want of confidence moved by Mr. Larnach.

Oct. 15, 1877.—Appointment of a Ministry under the premiership of Sir George Grey, K.C.B.

Nov. 29, 1877.—The Education Act, providing for the free and compulsory education of children, passed.

April 11, 1878.—Bishop Selwyn died, in England.

Feb. 29, 1879.—Departure of Governor the Marquis of Normanby, P.C.

Mar., 1879.—Removal of surveyors from the Waimate Plains by Natives acting under Te Whiti's orders.

Mar. 27, 1879.—Arrival of Governor Sir Hercules G. R. Robinson, G.C.M.G.

May 25, 1879.—The Natives from Parihaka, by order of Te Whiti, began ploughing up lands occupied by Europeans.

June, 1879.—Arrest of 180 of these Natives for causing disturbances.

July 29, 1879.—Defeat of the Grey Ministry on an amendment to the Address in Reply, moved by Sir William Fox, followed by a dissolution of Parliament.

Oct. 3, 1879.—Defeat and subsequent resignation of Sir George Grey's Ministry.

Oct. 8, 1879.—Appointment of a Ministry under the premiership of the Hon. John Hall.

Dec. 19, 1879.—An Act passed to assess property for the purpose of taxation.

Dec. 19, 1879.—The Triennial Parliament Act passed.

Dec. 19, 1879.—An Act passed to qualify every resident male of twenty-one years of age and upwards to vote.

June, 1880.—First portion of the Maori prisoners released by the Government.

July 9, 1880.—Bounty Island taken possession of by Captain George Palmer, H.M.S. "Rosario."

Sept. 8, 1880.—Departure of Governor Sir Hercules G. R. Robinson, G.C.M.G.

Oct. 1880.—Release of the last portion of the Maori prisoners.

Oct. 26, 1880.—Sir Francis Dillon Bell appointed Agent-General.

Nov. 29, 1880.—Arrival of Governor Sir A. H. Gordon, G.C.M.G.

April 29, 1881.—"Tararua," steamer, wrecked; 130 lives lost.

June 26, 1881.—Severe earthquakes in Wellington.

Nov. 5, 1881.—March of force of Constabulary and Volunteers on Parihaka, and arrest of Te Whiti and Tohu, without bloodshed.

Feb. 15, 1882.—First shipment of frozen meat made from Port Chalmers. (See Year-book, 1893, p. 192.)

April 21, 1882.—Resignation (during the recess) of the Hon. J. Hall's Ministry, and its reconstruction under the premiership of the Hon. F. Whitaker, M.L.C.

June 23, 1882.—Departure of Governor Sir A. H. Gordon.

June 24, 1882.—Assumption of the Government by Sir J. Prendergast, Chief Justice.

Jan. 20, 1883.—Arrival of Governor Sir W. F. D. Jervois, G.C.M.G., C.B.

Jan. 26, 1883.—A direct line of steam-communication between England and New Zealand inaugurated by the New Zealand Shipping Company.

Feb. 13, 1883.—Proclamation of amnesty to Maori political offenders.

Feb. 19, 1883.—Liberation of Te Whiti and Tohu.

Sept. 25, 1883.—Resignation of the office of Premier and his seat in the Ministry by the Hon. F. Whitaker, and the appointment of the Hon. Major H. A. Atkinson to be Premier, the members of Mr. Whitaker's Ministry being confirmed in their offices.

June 11, 1884.—Defeat of Major Atkinson's Government.

June 27, 1884.—Dissolution of the General Assembly.

Aug. 16, 1884.—Resignation of Major Atkinson's Ministry in consequence of the result of the general election. Formation of a Ministry under the premiership of Mr. Robert Stout.

Aug. 20, 1884.—Defeat of Mr. Stout's Ministry by an amendment, expressive of want of confidence, to the Address in Reply being carried.

Aug. 28, 1884.—Appointment of a Ministry under the premiership of Major Atkinson.

Aug. 29, 1884.—Defeat of Major Atkinson's Ministry on a vote of want of confidence.

Sept. 3, 1884.—Appointment of a Ministry under the premiership of Mr. Robert Stout.

Nov. 8, 1884.—An Act passed to enable certain loans of the New Zealand

Government to be converted into inscribed stock and the accrued sinking funds released.

Aug. 1, 1885.—The New Zealand Industrial Exhibition opened at Wellington.

June 10, 1886.—Volcanic eruptions at Tarawera, and destruction of the famed Pink and White Terraces; 101 lives lost.

May 28, 1887.—Defeat of Sir Robert Stout's Ministry.

July 15, 1887.—Dissolution of the General Assembly, after prorogation, on the 10th June.

July 21, 1887.—A Proclamation issued declaring the Kermadec Islands to be annexed to and form part of the Colony of New Zealand.

Aug. 17, 1887.—Kermadec Group annexed to New Zealand. Flag hoisted and proclamation read at Sunday Island.

Oct. 8, 1887.—Appointment of a Ministry under the premiership of Major H. A. Atkinson, Sir Robert Stout's Ministry having resigned in consequence of the result of the election.

Dec. 19, 1887.—An Act passed to reduce the number of members of the House of Representatives, after the expiration of the General Assembly then sitting, to seventy-four, including four Maori representatives.

Dec. 23, 1887.—The Australian Naval Defence Act, being an Act to provide for the establishment of an additional naval force on the Australian station, at the joint charge of the Imperial and the several Colonial Governments, was passed by the New Zealand Legislature.

Oct. 27, 1888.—Formal Proclamation of British Protectorate of Cook group of islands, by Captain Bourke, R.N., of H.M.S. "Hyacinth."

Mar. 22, 1889.—Departure of Governor Sir W. F. D. Jervois, G.C.M.G., C.B., from the colony.

Mar. 23, 1889.—Assumption of the Government by Sir James Prendergast.

May 2, 1889.—Arrival of the Earl of Onslow, G.C.M.G.

Sept. 2, 1889.—Electors prohibited by statute from voting in respect of more than one electorate at any election for the House of Representatives.

Nov. 26, 1889.—Opening of South Seas Exhibition, Dunedin.

Dec. 5, 1890.—First election of members of the House of Representatives under a practical manhood suffrage, and on the one-man-one-vote principle.

Jan. 24, 1891.—Notification by Governor of acceptation of resignation (during the recess) of the Hon. Sir H. A. Atkinson's Ministry. Appointment of a Ministry under the premiership of the Hon. John Ballance.

April 22, 1891.—Proclamation by Governor of New Zealand to inhabitants at Rarotonga of appointment of British Resident for the Protectorate of the Cook Islands.

May 25, 1891.—Adhesion of Australia to Postal Union.

Aug. 19, 1891.—Labour-laws: Passing of Employers' Liability Act 1882 Amendment Act.

Aug. 29, 1891.—Labour-laws: Passing of Truck Act, to prohibit payment of wages in goods or otherwise than in money.

Sept. 8, 1891.—Passing of Land and Income Assessment Act for purposes of taxation, and repeal of property-tax.

Sept. 21, 1891.—Labour laws: Passing of an Act for supervising and regulating of factories and workrooms. [Repealed by Act of 1894.]

Jan. 19, 1892.—Electoral districts of the colony based on population as ascertained by the results of the census of 1891 proclaimed.

Feb. 2, 1892.—Departure of Governor the Earl of Onslow.

Feb. 25, 1892.—Assumption of the Government by Sir James Prendergast, Chief Justice.

June 7, 1892.—Arrival of Governor the Earl of Glasgow, G.C.M.G.

June 28, 1892.—Death of Sir H. A. Atkinson, K.C.M.G., Speaker of the Legislative Council, and previously four times Premier.

Oct. 1, 1892.—Labour-laws: Passing of Contractors' and Workmen's Lien Act.

October 8, 1892.—Passing of Dairy Industry Act. [Repealed by Act of 1894.]

Oct. 11, 1892.—Passing of first Land-tax and Income-tax Act on the basis of the Assessment Act of previous year.

Oct. 11, 1892.—"Land Act, 1892": Lease in Perpetuity without revaluation ystem introduced: occupation with right of purchase: optional method of election: small farms associations.

Oct. 8, 1892.—"Land for Settlements Act, 1892," authorising purchase of ands from individuals for purposes of subdivision. [Repealed by Act of 1894. ee *post*.]

April 19, 1893.—Cheviot Estate taken over by Government under the Land and Income Assessment Act.

April 27, 1893.—Death of Hon. John Ballance, Premier of New Zealand.

May 1, 1893.—Resignation of the Ministry in consequence of the death of the Hon. John Ballance, and appointment of a new Ministry under the premiership of the Hon. R. J. Seddon.

June 23, 1893.—Death of Sir William Fox, K.C.M.G.; four times Premier of New Zealand.

Sept. 2, 1893.—Passing of Bank-note Issue Act, to make bank-notes a first charge on assets and to enable the Government to declare them to be a legal ender, &c.

Sept. 8, 1893.—The Legislative Council of New Zealand passed, by a majority of two, the Bill conferring the franchise on women.

Sept. 14, 1893.—Banks and Bankers Act Amendment Act passed, to permit of increase of capital by issue of new shares.

Sept. 19, 1893.—"The Electoral Act, 1893," extending franchise to women.

Oct. 2, 1893.—Alcoholic Liquors Sale Control Act passed: New licenses to be granted subject to the votes of the electors: reduction or abolition of licenses if desired.

Oct. 6, 1893.—Passing of "Criminal Code Act, 1893."

Oct. 6, 1893.—Labour-laws: Passing of "Workmen's Wages Act, 1893."

Oct. 6, 1893.—Native Land Purchase and Acquisition Act.

Oct. 20, 1893.—Sir James Prendergast appointed temporarily Deputy of the Governor.

Nov. 28, 1893.—A general election took place, being the first occasion on which women exercised the franchise.

Dec. 28, 1893.—Death of Right Rev. Dr. Henry John Chitty Harper, formerly Bishop of Christchurch and Primate of New Zealand.

Mar. 19, 1894.—Sir James Prendergast appointed temporarily Deputy of the Governor.

June 30, 1894.—Passing of Act to extend operation of Bank-note Issue Act, and another Act to control the transfer of bank shares.

June 30, 1894.—"Bank of New Zealand Share Guarantee Act, 1894," to guarantee special issue of shares to amount of £2,000,000, and purchase of Assets Estates Company by Assets Board. [Amended on July 20.]

July 20, 1894.—Passing of an Act to limit number of bank directors and power of shareholders to transfer their shares.

Aug. 21, 1894.—Labour-laws: Passing of Conspiracy Law Amendment.

Aug. 31, 1894.—Labour-laws: Passing of an Act to encourage the formation of industrial unions and associations, and to facilitate the settlement of industrial disputes by conciliation and arbitration.

Oct. 18, 1894.—"New Zealand Consols Act, 1894."

Oct. 18, 1894.—"Government Advances to Settlers Act, 1894," for relief of ettlers burdened by high charges of interest, &c.

Oct. 18, 1894.—Passing of "Land for Settlements Act, 1894," authorising acquisition of private lands for purposes of settlement, with compulsory powers, and repealing Act of 1892; also "Lands Improvement and Native Lands Acquisition Act, 1894."

Oct. 18, 1894.—Labour-laws: Passing of "Shops and Shop-assistants Act, 894," for limiting hours of business in shops.

Oct. 23, 1894.—Passing of "Banking Act, 1894."

Oct. 23, 1894.—Dairy Industry Act, to regulate manufacture of butter and heese, with inspection and grading for export, and provide for purity of milk.

Oct. 28, 1894.—Wreck of s.s. "Wairarapa" at Great Barrier Island; 135 *ves lost.*

Mar. 29, 1895.—Death of Right Reverend Andrew Burn Suter, D.D., formerly Bishop of Nelson, and Primate of New Zealand.

May 27, 1895.—Government assumed management of the Midland Railway.

Aug. 3, 1895.—Death of C. W. Richmond, Puisne Judge of Wellington.

Aug. 20, 1895.—Trustees cemeteries authorised to provide for cremation of dead.

Sept. 4, 1895.—"Bank of New Zealand and Banking Act, 1895," providing for writing off paid-up capital with proceeds of first call on reserve liability. Also for new capital and Assets Realisation Board, &c. Also to purchase business of any other bank.

Sept. 20, 1895.—Labour-laws: Passing of an Act to regulate attachment of wages.

Sept. 20, 1895.—Labour-laws: Passing of Servants' Registry Office Act.

Sept. 20, 1895.—"Family Homes Protection Act, 1895," to secure homes for the people and to prevent them from mortgage or sale for debt.

Oct. 18, 1895.—Amended tariff passed.

Oct. 31, 1895.—Bank of New Zealand and Banking Act Amendment Act: Sale of Colonial Bank business to Bank of New Zealand.

Dec. 20, 1895.—Appointment of Sir P. A. Buckley, K.C.M.G., as a Judge of Supreme Court.

Jan. 10, 1896.—Hon. W. P. Reeves appointed Agent-General in London.

Mar. 26, 1896.—Brunner Mine explosion; sixty-seven deaths.

April 12, 1896.—General census of colony taken for Sunday night.

May 18, 1896.—Death of Sir Patrick Buckley, K.C.M.G.

July 11, 1896.—Appointment of Mr. W. B. Edwards as a Judge of the Supreme Court.

July 19, 1896.—Death of Hon. Robert Pharazyn, M.L.C.

Aug. 2, 1896.—Death of James Edward FitzGerald, C.M.G., Controllor and Auditor-General.

Oct. 16, 1896.—Land for Settlements Act amended: Special provision made for disposal of highly improved lands acquired: preference given to landless people: Boards may select applicants, &c.

Oct. 17, 1896.—Alteration of franchise by abolition of non-residential or property qualification.

Oct. 17, 1896.—Government Valuation of Land Act passed.

Dec. 4, 1896.—General election of members of House of Representatives for the new districts as fixed by the Representation Commissioners on basis of Census, 1896.

Feb. 6, 1897.—Departure of the Earl of Glasgow, G.C.M.G.

Feb. 8, 1897.—Sir James Prendergast Administrator of Government.

June 22, 1897.—Diamond Jubilee of reign of Her Majesty Queen Victoria. Hon. R. J. Seddon, Premier of New Zealand, called to Privy Council, on occasion of his visit to England with contingent New Zealand Forces.

July 29, 1897.—Wreck of s.s. "Tasmania" at Mahia Peninsula; ten lives lost.

Aug. 10, 1897.—The Earl of Ranfurly assumed office as Governor.

Dec. 22, 1897.—Act to establish at Wellington the Victoria College, in connection with the New Zealand University.

July 15, 1898.—Hon. Sir Francis Dillon Bell, K.C.M.G., C.B., died.

1898.—Death of Sir George Grey, K.C.B.

1898.—Death of Bishop Selwyn, of Melanesia.

Oct. 15, 1898.—The Municipal Franchise Reform Act passed.

1898.—The Divorce Bill passed both Houses. Her Majesty's assent thereto gazetted 13th April, 1899.

Nov. 1, 1898.—An Act to provide for Old-age Pensions passed.

March 13, 1899.—Sir Julius Vogel, K.C.M.G., died.

April, 1899.—Victoria University College opened in Wellington.

May 25, 1899.—Resignation of Sir James Prendergast, Chief Justice.

June 22, 1899.—Sir Robert Stout, K.C.M.G., appointed Chief Justice.

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o 1852 (INCLUSIVE).

d Expenditure.

	Revenue rom s Sources.	Parliamentary Grant, or Receipts in aid of Revenue.	Appropriations from the Commissariat Chest for Military and Naval Expenditure.†	Total Expenditure.
	£	£	£	£
1840 ..	926	..	..	926
1841 ..	,390	43,347	804	81,541
1842 ..	,589	17,494	1,426	51,509
1843 ..	,398	9,562	8,093	39,053
1844 ..	,949	30,815‡	9,782	54,546
1845 ..	,899	..	200,000	212,899
1846 ..	,645	35,673‡	190,000	252,318
1847 ..	,265	37,752	153,038	234,055
1848 ..	,482	36,000	155,653	239,135
1849 ..	,408	20,000	151,455	221,863
1850 ..	,298	41,730	131,100	232,128
1851 ..	,049	20,000	110,600	197,649
1852 ..	,764	10,000	91,600	177,364

* T nd the information is only approximate. ‡ Raised by
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The
Reli dents, 333; Baptists, 400; Unitarians, 74; Lutherans, 186;
Quakers
Edu
Lan , 1,188; other crops, 679: total under crop, 29,140. Acres
tenced,
Liv

NOMINATIONS.

Numbers.			Proportions per Cent.			Proportions of the Sexes in every 100 persons.	
Persons.	Males.	Females.	Persons.	Males.	Females.	Males.	Females.
3,360	371,415	331,945	..	..	..	52·81	47·19
2,238	370,637	331,601	100·00	100·00	100·00	52·78	47·22
1,166	148,171	132,995	40.04	39·98	40·11	52 70	47·30
1,643	996	647	0·23	0·27	0·19	60·62	39·38
9,952	84,259	75,693	22·78	22·73	22·83	52·68	47·32
3,373	31,481	31,892	9·02	8·49	9·62	49·68	50·32
7,041	3,449	3,592	1·00	0·93	1·08	48·98	51·02
2,893	1,476	1,417	0·41	0·40	0·43	51·02	48·98
60	34	26	0·01	0·01	0·01	56·67	43·33
6,037	7,690	8,347	2·28	2·07	2·52	47·95	52·05
6,777	3,284	3,493	0·97	0·89	1·05	48·46	51·54
5,538	3,537	2,001	0·79	0·95	0·60	63·87	36·13
375	232	143	0·05	0·06	0·04	61·87	38·13
321	200	121	0 05	0·05	0·04	62·31	37·69
5,859	2,700	3,159	0·83	0·73	0·95	46·08	53·92
5,035	2.359	2,676	0·72	0·64	0·81	46·85	53·15
77	36	41	0·01	0·01	0·01	46·75	53·25
33	23	10	0·00	0·01	0·00	69 70	30·30
95	59	36	0·01	0·02	0·01	62·11	37·89
0,532	5,244	5,288	1·50	1·41	1 59	49·79	50·21
952	485	467	0·14	0 13	0·14	50 95	49·05
191	101	90	0·03	0·03	0·03	52·88	47·12
776	316	460	0·11	0·09	0·14	40·72	59·28
340	148	192	0·05	0·04	0 06	43·53	56·47
65	32	33	0·01	0 01	0·01	49·23	50·77
61	27	34	0·01	0·01	0·01	44·26	55·74
1,710	860	850	0·24	0·23	0·26	50·29	49·71
7,525	50,348	47,177	13·89	13·58	14·23	51·63	48·37
1,279	704	575	0·18	0 19	0·17	55·04	44·96
116	99	17	0·02	0·03	0·01	85·34	14·66
247	118	129	0·04	0·03	0·04	47·77	52·23
1,549	808	741	0·22	0·22	0·22	52·16	47·84
289	162	127	0·04	0·04	0·04	56 05	43·95
376	196	180	0·05	0 05	0·05	52·13	47·87
3,391	3,374	17	0·48	0·91	0·01	99·50	0·50
187	125	62	0·03	0·03	0·02	66·85	33·15
3,983	3,076	907	0·57	0·83	0·27	77·23	22 77
562	426	136	0·08	0·12	0 04	75·80	24·20
46	38	8	0·01	0·01	0·00	82·60	17·40
3,898	2,410	1,488	0·55	0·65	0·45	61·83	38·17
	31	15	0·01	0·01	0·00	67·39	32·61
		401	0·21	0·29	0·12	/3·09	26·91
		29	0·02	0·02	0·01	75·21	24·79
		41	0·02	0·03	0·01	73·20	26·80
		22	0·02	0·03	0·01	80·87	19·13

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